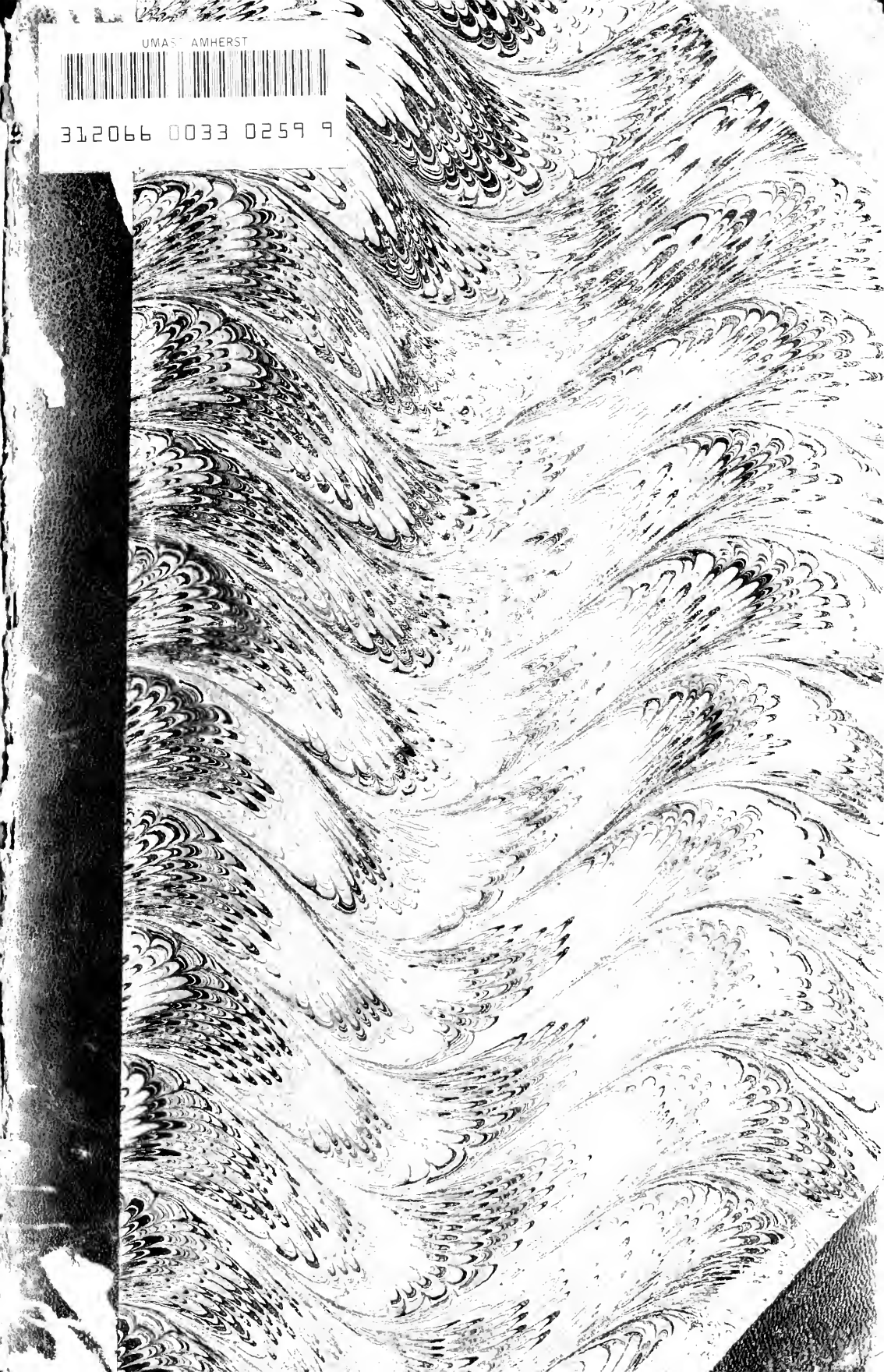


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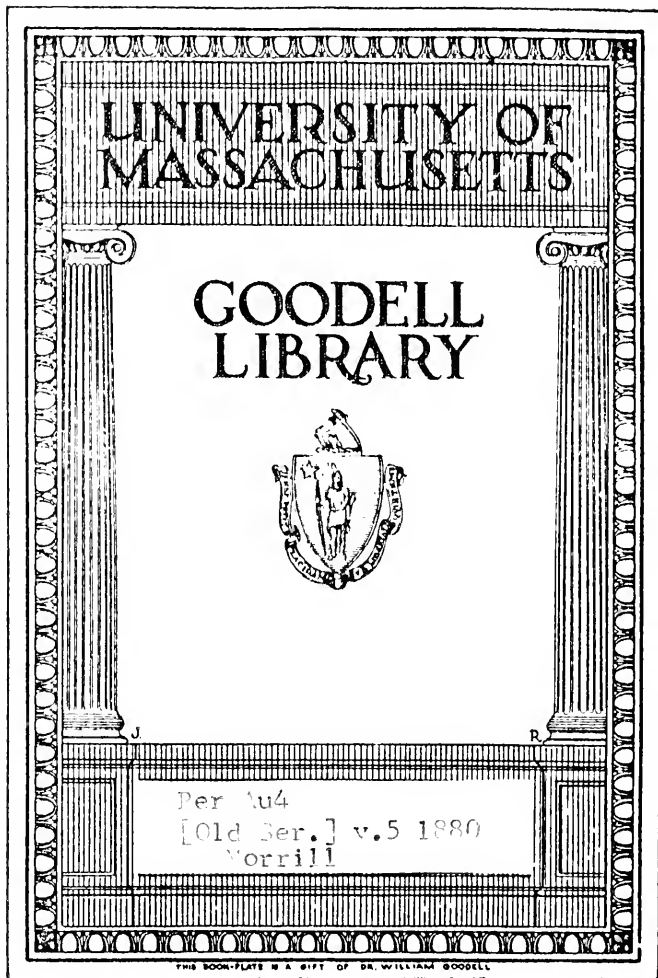


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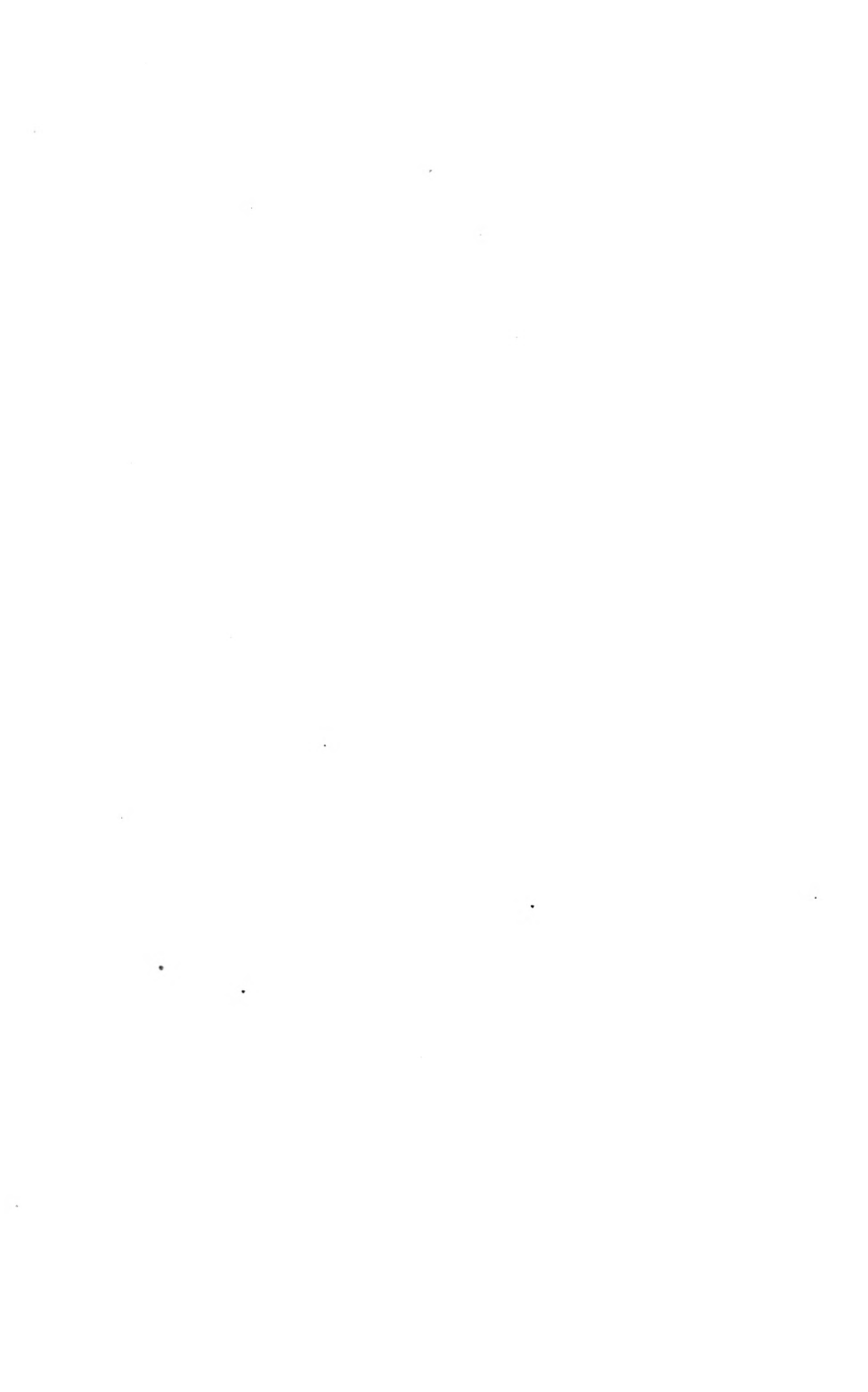
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BULLETIN

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NUTTALL ORNITHOLOGICAL CLUB.

Vol. V.

JANUARY, 1880.

No. I.

NOTES ON THE HABITS AND DISTRIBUTION OF THE PHILADELPHIA VIREO (*VIREO PHILADELPHICUS*).

BY WILLIAM BREWSTER.

THE type specimen of this interesting little Vireo was obtained near Philadelphia, by Mr. Cassin, in September, 1842. For many years succeeding the publication of his description, in 1851, the species seems to have almost entirely eluded observation, and it was not until about the beginning of the last decade that the problem of its distribution began to be solved, while there probably remains much to be learned regarding this point. We now know, however, that it extends over Eastern North America from Hudson's Bay to Central America, while in certain portions of the Mississippi Valley it occurs regularly and in considerable numbers during the spring and fall migrations. Its breeding range does not seem to have been so well made out, but Mr. Nelson found one or two pairs near Chicago in July, 1874 (Bulletin Essex Institute, Vol. VIII, p. 102), and Professor Aughey gives it in his list of locust-eating birds as a summer resident in Eastern Nebraska (Notes on the Nature of the Food of the Birds of Nebraska, p. 27). This latter record appears to be the most western one for the United States.

But it is more particularly of the history and distribution of the Philadelphia Vireo in our Eastern States, with a few original facts regarding its habits, that I wish to treat in the present article. Its title to a place in the fauna of New England was first established by Professor C. E. Hamlin, who took a single specimen at Water-

ville, Maine, May 21, 1863 (Report of Maine Board of Agriculture, 1865). During the succeeding nine years it was not again heard from until, on June 2, 1872, Mr. Boardman shot a female at Calais, Maine (*Deane*, Bull. N. O. C., Vol. I, p. 74); and almost simultaneously Mr. Deane and myself detected several at Lake Umbagog (*Deane*, Bull. N. O. C., Vol. I, p. 74). Since that time Mr. Deane has again met with it in Maine (Ripogenus Lake, Sept. 11, 1875, *l. c.*), and Mr. Fox has announced the occurrence of a single specimen in New Hampshire (Bull. N. O. C., Vol. II, p. 15, Hollis, N. H., May 26, 1876). The above-cited references, with a single additional one (*Brewster*, Bull. N. O. C., Vol. I, p. 19, Cambridge, Mass., Sept. 7, 1875), comprise, I believe, all the New England specimens which have been previously announced. For the sake of greater completeness, and because of several slight inaccuracies which have crept into the foregoing records, I have thought it best in the following account to include *all* the specimens which have fallen under my observation.

My first introduction to the *Philadelphia Vireo* was in 1872, when, on the occasion already referred to, Mr. Deane and myself secured three specimens at Lake Umbagog. They were taken respectively on the 3d, 4th, and 5th of June; but as a few northern-bound Warblers still lingered in the locality, it seemed not unreasonable to suppose that the Vireos were also belated migrants, an inference which was strengthened by the fact that no others were afterwards met with. During the previous season, in company with Mr. Maynard, we had ransacked the same region pretty thoroughly without finding the species at all. Nor was I more successful in 1873, when nearly the entire summer was spent in collecting at the lake. In 1874, however, I again found them near the same locality, and three specimens were taken on August 29, and a fourth on August 31. All of these were young birds in freshly assumed but quite perfect fall dress, while the fact that the autumnal migrations had fairly set in made it seem unlikely that they had been reared in the neighborhood. In 1875 my customary visit to Maine was omitted, but I succeeded for the first time in detecting the species in Massachusetts. This was on September 7, when a single specimen was shot in a willow-tree near Fresh Pond (Bull. N. O. C., Vol. I, p. 19).

The country about Upton received a fresh overhauling in 1876, when three *Philadelphia Vireos* were taken, one on May 29, the

other two on May 31. Although no additional ones were actually secured, several which were thought to be of this species were seen late in June, and for the first time we began to suspect that a few individuals might occasionally breed there.

I do not know that the quiet of the Umbagog forests was again disturbed by any collector until my return to the old haunt in 1879. On this occasion the experience of former years bade fair to be repeated. Two specimens of *V. philadelphicus* were shot on May 27, and the fact that they were a mated pair again aroused my suspicions; but at that date only the earlier breeding birds were fairly settled, and the country was still filled with migrants. Another week saw the departure of the last of these, and the bird on which the chief interest centred had apparently gone with the rest. In the now leafy woods, the wild, clear notes of the Solitary, and the cheerful song of the Red-eye, were apparently the only Vireo voices. But at length as I was one day sitting in the shade of some young poplars, a Vireo, which had been singing overhead, arrested my attention by uttering a peculiar note. I listened intently for a moment, but the strain flowed on in the old familiar tones. "Only a Red-eye," I said to myself, and was once more lapsing into inattention, when the note was repeated. I at once rose, and began to scrutinize the singer, but in the flickering light and shadow in which he moved it was difficult to get a good view of him; so, much against my inclinations, I was forced to make use of my gun, and, with a shower of falling leaves, the fluttering little form came to the ground at my feet. One glance was sufficient, — it was a *Philadelphia Vireo*.

It is needless to say that my delight scarcely equalled my surprise, for the mystery had been solved, but in a way that I little expected. Under the guise of an old friend, the little stranger had long and successfully concealed his identity. At least this was the natural inference at the moment, and it afterwards proved to be the correct one. For the experience of the succeeding few days fully established the fact that a certain proportion — perhaps ten per cent — of the singers that had previously passed unchallenged as Red-eyed Vireos were in reality of the rarer species. In fact, the latter birds turned out to be not very uncommon in suitable localities throughout the whole surrounding country. Nor were they confined to the water-shed of Umbagog, for I traced them as far southward as Newry, only five miles north of Bethel, and westward

to Dixville Notch in New Hampshire. At the latter point they were noted in greater numbers than elsewhere, and on June 10 several pairs were found in the open birch groves about the "Dix House," just beyond the Notch. A sufficiently amusing, if rather humiliating, development was, that a Vireo which had been daily in the habit of singing in the foliage of a paper birch before the hotel at Upton turned out to be of this species. Possibly the same bird had sung there in former years, when we were vainly scouring the surrounding country for his species. Evidently too much knowledge is not a safe thing. Had we not *known* the Red-eye's song, the other species might have been detected long ago, and it is highly probable that it will yet be found, during the summer months, over the whole of that portion of New England which is embraced in the Canadian Fauna.*

The habits of this Vireo appear to be very little known. Even Dr. Coues and Mr. Nelson, both of whom seem to have found it in comparative abundance, are nearly silent on this point, and our whole available literature furnishes scarcely more than a few paragraphs relating to its life-history. This is not so much to be wondered at when it is considered that the bird has rarely been observed except during its migrations, when it is certainly a more than ordinarily silent and retiring species.

The Philadelphia Vireos usually arrive at Umbagog during the last week of May, or, if the season be a late one, in early June. They come with the last flight of Warblers, when the forest trees are putting on a drapery of tender green, and the moose-wood is white with snowy blossoms. They are most apt to be found singly at this season, though they not infrequently associate with the various species of Warblers. For some time after their first appearance they are severely silent, and, although by no means shy or suspicious, their habits are so retiring and unobtrusive, that their presence may be easily overlooked. Their motions are essentially like those of all the rest of the genus. A branch shakes, and you catch a glimpse of a pale lemon breast that matches well with the tint of the thin foliage. Then the whole bird appears, hopping slowly out along the limb, and deliberately peering on every side

* I am indebted to the kindness of Mr. W. B. Douse for the opportunity of examining, since writing the foregoing, a specimen of the Philadelphia Vireo shot by him, August 8, 1878, near Pleasant Ridge Pond, Somerset County, Maine. It was a young male, just acquiring the fall plumage.

in that near-sighted way peculiar to the tribe. Occasionally its search among the unfolding leaves is rewarded by the discovery of some luckless measuring-worm, which is swallowed with the same indifference that marks all the bird's movements. You begin to feel that nothing can disturb the equanimity of the little philosopher, when it suddenly launches out into the sunshine, and, with an adroit turn, captures a flying insect invisible to human eyes. The next moment there is a dim impression of glancing wings among the trees, and it has vanished. There is little chance of finding it again, for its voice has as yet no place in the chorus that rises from the budding thickets around.

But after the trees become dense with foliage, and the sense of early summer steals over the land, even the shy reserve of our recluse yields to the subtle influence, and he finds a tongue no less joyous than the rest. Indeed, after the breeding season has fairly begun, he is quite as indefatigable a singer as his Red-eyed cousin. I have heard his cheerful voice all day long when a gloomy storm brooded over the dripping woods, and during the hottest June days he is rarely silent for any length of time, even at noontide. Nor does cold, blustering weather seem to affect his spirits. I remember shooting one in a tall yellow birch when a high north wind was bending the stoutest trees like so many saplings. The branch to which the little singer clung was lashed about by the blasts, which flouted the leaves and swung the whole tree-top through the air; yet he hardly paused a moment in his strain, though his voice was at times nearly drowned by the rushing wind.

Contrary to what might be expected from the apparently close relationship of the two birds, the song of this species does not in the least resemble that of *Vireo gilvus*. It is, on the other hand, so nearly identical with that of *V. olivaceus* that the most critical ear will, in many cases, find great difficulty in distinguishing between the two. The notes of *philadelphicus* are generally pitched a little higher in the scale, while many of the utterances are feebler, and the whole strain is a trifle more disconnected. But these differences are of a very subtle character, and, like most comparative ones, they are not to be depended upon unless the two species can be heard together. The *Philadelphia Vireo* has, however, one note which seems to be peculiarly its own, a very abrupt, double-syllabled utterance, with a rising inflection, which comes in with the general song at irregular but not infrequent intervals. I have also,

on one or two occasions, heard the male, when in pursuit of his mate, utter a soft *pseuo*, similar to that sometimes used by *Vireo olivaceus*, and both sexes when excited or angry have a harsh, petulant note exactly like that of *V. gilvus*.

Although in the breeding season the species under consideration seems to be generally distributed throughout the wooded region about Umbagog, it occurs less commonly in the heavily timbered portions. As upon its first arrival, it chiefly affects the younger growths which have sprung up in the clearings and over old burnt lands. Its favorite haunts are the coppices of wild-cherry and gray birches by roadsides; rocky knolls tufted with black and yellow birches; the various small trees and tall shrubs that fringe the wood-edges; and deserted farms, where cool groves of vigorous young paper-birches and glaucous-foliaged poplars are grouped over the neglected acres, with intervals of sunny opening between. But wherever found, like most of the members of the *Vireosylva* group, it makes its home in the tops and upper branches of the trees, rather than in the thickets beneath.

The breeding season is probably longer deferred than with any other New England species, excepting, perhaps, *V. solitarius*. At least the males were not in full song before June 10, and even at that date they were not generally mated.

My utmost efforts to discover the nest failed. Some old ones, which were hung in the usual manner near the extremity of birch or poplar limbs, may have originally belonged to this species, as several specimens of the birds were found in the grove, and no other *Vireo* seemed to be breeding near. The only one of these structures which I took pains to examine closely was somewhat smaller and deeper than the average nest of *Vireo olivaceus*, being rather more like that of *Vireo noveboracensis*.

At the close of the breeding season, when the brakes are turning brown, and occasional maples along the lake shore begin to glow with the burning tints of autumn, the Philadelphia Vireos join those great congregations of mingled Warblers, Sparrows, Woodpeckers, Titmice, etc., which at this season go trooping through the Maine woods. The specimens taken at Upton, in 1874, were in flocks of this kind, and several of them were shot in low bushes, an apparent exception to the rule previously given. But mixed society among birds, as well as men, is a great leveller of individual traits, and it is by no means uncommon on these occasions to find such tree-

loving species as the Bay-breasted, Cape May, Blackburnian, and Blue Yellow-backed Warblers, the Red-bellied Nuthatch, the Golden-crested Kinglet, and many others, consorting with Winter Wrens, Water Thrushes, and Canada Flycatchers in the thickets by wood-paths, or along the banks of ponds or rivers; and I know of no more interesting sight, especially if it be a bright September morning, before the sun has risen above the trees. The dark foliage of the alders and viburnums is frosted with innumerable dew-drops, which fall in sparkling showers where a Warbler hops or a Woodpecker taps on the slender stems. Yellow and gold and scarlet liveries flash among the glossy leaves, as the active little forms appear and disappear, while the constant rustling and low-toned conversational chirping from the depths of the thicket suggest all sorts of pleasing mysteries. It is a pretty picture, this gathering of the birds in the quiet depths of the forest, with the tall spires of sentinel-like firs and spruces keeping guard against the sky, and the incessant rasping of the wood-borers, — Nature's time-keepers, — counting the hours of the crumbling trunks around.

REMARKS ON THE NIDIFICATION OF *LOXIA CURVIROSTRA AMERICANA*, WITH A DESCRIPTION OF ITS NEST AND EGGS.

BY EUGENE P. BICKNELL.

AMONG those of our abundant birds whose nidification remains very unsatisfactorily known, the Red Crossbill (*Loxia curvirostra americana*) occupies no inconspicuous position. True, the nesting of the very intimately allied European form (*curvirostra*) is pretty thoroughly understood, but, so far as I can now recall, there is but a single authentic descriptive record of the nest and eggs of *americana* having been discovered. In view of these facts it is with much pleasure that I find myself able to describe the nest and eggs of this species taken in the Lower Hudson Valley; theoretically one of the most unlikely places to be chosen as a breeding station in the State, and well illustrating the uncertain and erratic disposition of the species in question.

The winter of 1874-75 will be remembered as one of extreme

severity, during which most of our boreal birds appeared in greater numbers, and extended their range further to the southward than for many winters before. At Riverdale, New York City, Red Crossbills were first observed in 1874 on November 3 (a small flock). They remained apparently but a few days, but reappeared in larger numbers about a month later, and thereafter during the ensuing winter were constantly present in small roving flocks. At one locality, in particular, they were almost always to be found. This was about several private residences overlooking the river, whose grounds, abounding with various species of ornamental evergreens and conifers, especially larches and the Norway spruce (*Abies excelsa*), seemed to offer them especial attractions. Here as the winter waned the birds became none the less common, and in the mild mornings of early spring-time this species, as well as *Pinicola enucleator*, would often be found in full song, frequently on the same tree. As I now recall them, the song of the Grosbeak was a subdued rambling warble, interrupted with whistling notes; that of the Crossbill bolder and more pronounced as a song. During the third week in April a male was daily heard singing about the same spot, and on the 22d, in following up his notes, I came upon the female busily at work upon a nest. Several times I watched it arrange a burden of building materials, gathered from the ground but a few yards distant, in the almost completed structure, which on another visit a few days later appeared to be finished, but was empty. On the 30th, however, it contained three eggs. On shaking the tree the female fluttered from the nest, and while I was ascending both birds flew about me with notes of distress and alarm, the female approaching within a foot when the nest was reached, though her mate exercised a greater degree of caution. Notwithstanding all this demonstration, however, the male bird (unquestionably of this pair) was observed near the nest a short time afterward in full song.

The nest was placed in a tapering cedar of rather scanty foliage, about eighteen feet from the ground, and was without any single main support, being built in a mass of small tangled twigs, from which it was with difficulty detached. The situation could scarcely have been more conspicuous, being close to the intersection of several roads (all of them more or less bordered with ornamental evergreens), in plain sight of as many residences, and constantly exposed to the view of passers-by. The materials of its composition were of rather a miscellaneous character, becoming finer

and more select from without inwards. An exterior of bristling spruce twigs loosely arranged surrounded a mass of matted shreds of cedar bark, which formed the principal body of the structure, a few strips of the same appearing around the upper border, the whole succeeded on the inside by a sort of felting of finer material, which received the scanty lining of black horse-hair, fine rootlets, grass stems, pieces of string, and two or three feathers. This shallow felting of the inner nest can apparently be removed intact from the body of the structure, which, besides the above-mentioned materials, contained small pieces of moss, leaves, grass, string, cottony substances, and the green foliage of cedar. The nest measured internally two and one half inches in diameter by over one and a quarter in depth; being in diameter externally about four inches, and rather shallow in appearance.

The fresh eggs are in ground color of a decided greenish tint, almost immaculate on the smaller end, but on the opposite side with irregular spots and dottings of lavender-brown of slightly varying shade, interspersed with a few heavy surface-spots of dark purple-brown. There is no approach in the arrangement of these to a circle, but between the apex of the larger end, and the greatest diameter of the egg, is a fine hair-like surface line; in two examples it forms a complete though irregular circle, and encloses the principal spots. In the other egg, which is the largest, this line is not quite complete and the primary blotches are wanting, but the secondary markings are correspondingly larger and more numerous. In another egg there are two perfect figures of 3 formed on the sides by the secondary marks, one of them large and singularly symmetrical. The eggs measure respectively $.74 \times .56$, $.75 \times .58$, $.78 \times .59$.

I take the liberty of quoting from a communication received from Mr. G. A. Boardman in relation to this species, that in Maine "the nest has been found in thick trees, also in hardwood trees and in holes"; also that usually "some warm material (old-man's-beard, a species of hanging moss) is used," and that "the bird sits very close."

We still seem to be but partially acquainted with this bird's complete life-history. Its peculiarities of anatomical structure seem no less marked than its eccentricities of character. Indeed, the general laws of geographical limitation obtaining with other species seem in this almost to be overruled by an inherent element of capriciousness, which, though partially shared by others of its genus, is

almost unique among our birds. Here we have a species breeding within hearing distance of the songs of *Sialus motacilla* and other birds of similar distribution, whose proper breeding range, so far as known, is within the confines of the Canadian Fauna, where the severities of midwinter seem to afford it a congenial environment while rearing its young.

I further learn from Mr. Boardman that the species in question "is a very common breeding bird all through the forests of Northern Maine, from January to July, but not every year," and that eggs which he has received have usually been frozen in transportation. Yet I have repeatedly observed the species in flocks about New York City in late spring and early summer. Mr. R. F. Pear-sall informs me that he has shot it on Long Island in midsummer,* and we have other records of its occurrence southward at that season irrespective of elevation. It has even been noticed in the Bermudas from March to May.† Is it that these roving bands are late broods of the preceding year, which breed correspondingly later than early broods, or does the species not attain its perfect adult state till its second year? In the former case we would have a unique instance of the southernmost representatives of a species breeding considerably later than the most northern. As for the latter supposition it seems to find some support, not only from general evidence, but in the fact that in male and female specimens taken at Riverdale in May the reproductive organs are seasonably undeveloped, while the male, at least, is certainly not in perfect adult plumage. The above-mentioned instance of its breeding seems to be an exceptional case, for, though others were constantly present, it is scarcely probable that they were nesting, as after May 10 none were observed.

I learn from Dr. A. K. Fisher, however, that this same year the species was last seen at Sing-Sing on April 1, when a female shot from a flock of eight had the ovaries well developed.

We find that in various localities in the State of Maine the extremes of mean temperature for the months of January and February are about 11° and 24°, while in New York City the average temperature for April and May, 1875, was nearly 51°. Here we have an

* A flock being found feeding on the seeds of a low, second growth of grass, in a mowed field. Here we have an instance of decided variation in habits with changed conditions.

† Prof. Baird, Am. Jour. Sci., Vol. XLI, May, 1866, p. 30.

extreme difference of mean temperature at localities where this species has been found breeding of from about twenty degrees below to twenty degrees above freezing point. Can a similar instance be named among any of our other birds?

Indeed, we might well question whether an organic type could persist unchanged under a continuance of such diverse conditions, — more diverse even as a single factor than those which serve to produce races over greater geographical areas. It would certainly seem that the period of incubation must vary under such diverse conditions of environment, and why should not some physical result (inappreciable in isolated cases) attend any constant variation in time of the important period of embryonic development?

A CONTRIBUTION TO THE ORNITHOLOGY OF MINNESOTA.

BY THOMAS S. ROBERTS AND FRANKLIN BENNER.

THE material for the present paper is the result of a two weeks' collecting trip in Grant and Traverse Counties, Minnesota, in the early part of June, 1879. The principal point of observation was at Herman, situated in the southwestern part of Grant County, and from it excursions were made to localities within fifteen or eighteen miles. The notes of Traverse County were made on the way to, and during a three days' stay at, Brown's Valley, situated some forty miles west of Herman, between Big Stone Lake and Lake Traverse, on the border of Dakota. These two localities, representing as they do the prairie fauna of the State, possess very little timber, and that only on the borders of some of the many lakes and pools which abound in these counties. Herman, situated on the open prairie, has no timber nearer than a mile and a half, where, around a small lake, are a few large elm and oak trees accompanied by the usual underbrush of swamp-willows, alders, etc. Some fifteen miles to the northeast are two lakes, the larger of which, called Elbow Lake, is bordered by quite a large belt of timber, which proved to be a very interesting field of observation.

Brown's Valley, a trading-post, lies in a valley between the lakes

previously mentioned, and on either side of it arise the high bluffs which border the State of Minnesota and the Territory of Dakota. The valley is about four miles long by about a mile wide, and its appearance indicates that it at one time was an extension of the lakes which it now separates, and formed with them a continuous water communication from Hudson's Bay to the Gulf of Mexico.

Some distance in the "Coteau des Prairies" rises the Minnesota River, which runs down into this valley near Lake Traverse, and then, flowing southward, empties into Big Stone Lake. It is here merely a small stream, not over ten or fifteen feet wide; yet along its banks for about two miles has centred all the timber visible, except perhaps a few stunted oaks in the gullies running down from the bluffs on either side. Swamp-willows, black-oaks, and two or three groups of large cotton-wood trees made up this wood, and into it seemed to be gathered all the bird life for miles around.

From the date of these observations — June 5 to 20 — it is to be presumed that all the birds noted were breeding in the localities mentioned, or had their nests in the near neighborhood.

Although the birds around Minneapolis had been nesting some ten days or more, they seemed to have but just begun here, and most of the nests obtained contained fresh eggs.

Among the notable Water Birds observed were Forster's Tern (*Sterna forsteri*) and Franklin's Rosy Gull (*Larus franklini*), which were seen daily, and, although no eggs were found, were apparently breeding. The occurrence of three birds heretofore unnoted in this State is of especial interest. They are the Chestnut-colored Bunting (*Plectrophanes ornatus*), the White-winged Blackbird (*Calamospiza bicolor*), and the Arkansas Flycatcher (*Tyrannus verticalis*). The first is the most common bird upon the dry prairie, and it seems strange that it should have been so long overlooked.

The varietal forms of the Grass Finch, Savanna Sparrow, and Meadow Lark seem to be very distinct, when compared with similar ones from regions further west, and with types from the southeastern portions of the State.

The vicinity of Herman abounds in small lakes surrounded with high reeds, and here the Ducks were breeding commonly. Their nests were not confined to the borders of the lakes, but were situated upon the prairie or in a wheat-field some distance from the water.

The most prominent Wader was the Great Marbled Godwit

(*Limosa fedoa*) which was found all over the prairie wherever there was moisture. They seemed very fearless, and would fly around the intruder, or alight near him, uttering their shrill call. The disturbing of one seemed to arouse all within hearing distance, and they would come flocking together, and circle around, sometimes to the number of thirty or more. While feeding they seemed to go in flocks of from six to as many as fifty, upon the shores of the lakes. There seems to be a decided difference in the size of the sexes, which does not appear to be noted by authors, except Audubon, who states that the females are larger than the males. The bills are so very much longer in the females that the sex can be distinguished by this means alone. The difference in a series of ten skins between the shortest bill of the females and the longest bill of the males is fifty-four hundredths of an inch, the average difference being ninety-three hundredths. The measurements are given in full in their proper place.

In the following list the species were noted in both localities unless otherwise stated.

1. **Turdus migratorius**, *Linn.* ROBIN. — Several seen at Herman, but not apparently common.

2. **Turdus fuscescens**, *Steph.* WILSON'S THRUSH. — Common at Brown's Valley.

3. **Mimus carolinensis**, (*Linn.*) *Gray.* CATBIRD. — Common.

4. **Harporhynchus rufus**, (*Linn.*) *Cab.* BROWN THRUSH. — A few pairs seen at Brown's Valley. Nearly fledged young in nests, June 16.

5. **Troglodytes ædon parkmani**, (*Aud.*) *Coues.* HOUSE WREN. — Common. A nest with fresh eggs, in a broken limb of a dead tree, found near Herman, June 7.

6. **Telmatodytes palustris**, (*Wils.*) *Bd.* LONG-BILLED MARSH WREN. — Common in marshes at Herman. Nests with fresh eggs taken, June 7.

7. **Cistothorus stellaris**, (*Licht.*) *Cab.* SHORT-BILLED MARSH WREN. — Common in dry marshes.

8. **Eremophila alpestris**, (*Forst.*) *Boie.* SHORE LARK. — Common upon the dry prairie.

9. **Dendroeca æstiva**, (*Gm.*) *Bd.* YELLOW WARBLER. — Abundant. Nests mostly just built or containing fresh eggs; but an occasional one had young.

10. **Dendroeca pinus**, (*Wils.*) *Bd.* PINE-CREEPING WARBLER. — A single specimen, a female, was taken in the garden of a shanty on the prairie at Herman. A few small box-alders and poplars were all the trees within two miles or more. No nest was found, although these trees were very easily searched. It must have been only a straggler from the woods.

11. *Geothlypis trichas*, (Linn.) Cab. MARYLAND YELLOW-THROAT. — Common and nesting. Sets of fresh eggs taken, June 14 and 16.

12. *Hirundo horreorum*, Barton. BARN SWALLOW. — Found breeding in a few suitable localities. A nest containing young found in a low straw cattle-shed, June 17.

13. *Petrochelidon lunifrons*, (Say) Sel. CLIFF SWALLOW. — Common. A colony noticed at a dwelling-house in Herman.

14. *Cotyle riparia*, (Linn.) Boie. BANK SWALLOW. — A few pairs found breeding at one of the lakes near Herman.

15. *Progne purpurea*, (Linn.) Boie. PURPLE MARTIN. — Common, nesting in trees. Two nests in one tree were within ten inches of an occupied nest of *Colaptes auratus*.

16. *Vireo olivaceus*, (Linn.) Vieill. RED-EYED VIREO. — A few found in the heavy timber about Elbow Lake.

17. *Vireo gilvus*, (Vieill.) Bp. WARRELING VIREO. — Common. Fresh eggs taken, June 17.

18. *Chrysomitris tristis*, (Linn.) Bp. THISTLE-BIRD. — A few pairs noted.

19. *Plectrophanes ornatus*, Towns. CHESTNUT-COLLARED BUNTING. — The birds of this species were first noted upon the prairie about a mile from Herman, where their circular flight and characteristic song attracted attention at once. They were found from here westward to the bluffs bordering Brown's Valley, but did not descend into it. They at all times preferred the prairie away from any moist places, and were not found near sloughs nor lakes. Mr. J. A. Allen's description of their habits, as quoted in Cones's "Birds of the Northwest," coincides so exactly with our experience that a detailed account is unnecessary. The variations of plumage he describes were also noticed. A single female was taken having a distinct chestnut collar, and many of the males had the black of the breast streaked with chestnut. They were evidently nesting, and a very prolonged search finally revealed a nest which contained young half grown. It was placed upon the ground in the short prairie-grass, and very difficult to find even when the locality was once known. It was sunk on a level with the ground, and was composed of fine dry grasses very similar to the nest of the Shore Lark (*E. alpestris*). Internal diameter of nest $2\frac{1}{2}$ inches; depth about 2. The female fluttered away exhibiting the utmost concern, and acting as if severely wounded.

20. *Passerculus savanna alaudinus*, Bp. WESTERN SAVANNA SPARROW. — Common around sloughs and wet places.

21. *Poecetes gramineus confinis*, (Gm.) Bd. WESTERN GRASS FINCH. — Rather common.

22. *Coturniculus passerinus*, (Wils.) Bp. YELLOW-WINGED SPARROW. — Common on high prairie.

23. *Melospiza meloda*, (Wils.) Bd. SONG SPARROW. — Common. Nest and eggs nearly fresh taken at the Valley, June 17.

24. *Spizella pallida*, (Sw.) Bp. CLAY-COLORED SPARROW. — Common at Brown's Valley. They frequented specially a small area once cultivated, on which there had sprung up a dense growth of low bushes and weeds.

25. *Calamospiza bicolor*, (Town.) Bp. LARK BUNTING. — A single male of this species was shot on the railroad track a short distance above Herman, and, although diligent search was made for its mate, she could not be found. On the way to Brown's Valley, on the top of the high coteaux which rise abruptly from the prairie and border the shores of Lake Traverse, we encountered these birds again, where a pair was taken, the female having eggs about to be laid. They were quite common all along the edge of these bluffs, especially where it was at all stony, and frequented the neighboring "breakings" on the prairie for food. They would follow the ploughs to pick up insects, etc., but were very wary and difficult of approach. In fact, it was almost impossible to shoot them. In the Valley none were seen.

26. *Euspiza americana*, (Gm.) Bp. BLACK-THROATED BUNTING. — Abundant everywhere, showing a decided partiality for the neighborhood of wheat-fields.

27. *Dolichonyx oryzivorus*, (Linn.) Sw. BOBOLINK. — Abundant. Nest and six fresh eggs taken, June 10.

28. *Melothrus ater*, (Bodd.) Gray. COWBIRD. — Common.

29. *Agelæus phœniceus*, (Linn.) Vieill. RED-WINGED BLACKBIRD. — Common.

30. *Xanthocephalus icterocephalus*, (Bp.) Bl. YELLOW-HEADED BLACKBIRD. — Very common. This and the above species were seen in considerable flocks at the Valley on June 17.

31. *Sturnella magna neglecta*, (Aud.) Allen. WESTERN MEADOW LARK. — Common; young nearly fledged found in nest, June 10.

32. *Icterus spurius*, (Linn.) Bp. ORCHARD ORIOLE. — Common. Fresh eggs taken at Valley, June 17.

33. *Quiscalus purpureus æneus*, (Bartr.) Ridgway. CROW BLACKBIRD. — Common. Fresh eggs of second brood taken, June 7.

34. *Tyrannus carolinensis*, (L.) Bl. KING-BIRD. — Very abundant, especially at Brown's Valley, where over twenty-five nests were found on June 17, all containing full sets of perfectly fresh eggs. The nests here were often found in small bushes or on low limbs; one was not more than eighteen inches from the ground.

35. *Tyrannus verticalis*, Say. ARKANSAS FLYCATCHER. — The first notice of this bird was near a small post-office called Pleasant Hill, on the borders of Lake Traverse. It was sitting on a fence near a group of oak-trees in a gully running down to the lake. It was shot, and proved to be a female. No more were seen until we searched the strip of woods along the Minnesota River at the Valley, where we discovered two pairs nesting in company with many of the preceding species. The nests were in

elm-trees, and were placed on the top of the limb, but not so much exposed as the Kingbird's. They are somewhat larger than those of the latter bird, but the eggs are so similar that identification was only possible by seeing the female sitting upon the nest, which was no easy matter, for after they were once disturbed they would hover over the tree for a while, uttering a short note, and then one of the pair would disappear for some time, and only return when its mate had escorted it back, and then both would sit upon an adjacent limb for twenty minutes or more before the female would approach the nest. At this date (June 17) one of the nests contained four eggs perfectly fresh, and the other was not quite finished. The first was composed of stems of plants and dried grasses, and lined with finer grasses and a few bits of wool. The second was about the same, except the lining, which was composed entirely of feathers.

36. *Contopus virens*, (Linn.) *Cab.* WOOD PEWEE. — Common.

37. *Empidonax trailli*, (Aud.) *Bd.* TRAILL'S FLYCATCHER. — On July 19 a nest with three fresh eggs of this species was taken in a tangled growth of wild-plums and grape-vines. The nest was built about three feet from the ground, in the fork of a small plum-tree, and entirely hidden by the grape-vines which covered the tree. It was composed of dry grasses rather compactly woven and lined with finer pieces of the same. External diameter $3\frac{1}{2}$ inches; depth 3. Internal diameter 2; depth about $1\frac{1}{2}$ inches. The ground color of the eggs, which measure .75 of an inch in length by .56 in breadth, was a very rich cream-color before blowing, and afterward assumed a creamy-white appearance, having a circle of dots and spots of a reddish-brown color at the larger end. The female was shot.

38. *Empidonax minimus*, *Bd.* LEAST FLYCATCHER. — Common. Nest and four fresh eggs taken June 17.

39. *Chordeiles virginianus*, (Gm.) *Bp.* NIGHTHAWK. — Common. Eggs taken June 6 were nearly fresh. A specimen taken is not nearly as light-colored as many from the eastern part of the State.

40. *Chaetura pelagica*, (Linn.) *Bd.* CHIMNEY SWIFT. — A few seen in the timber at Elbow Lake.

41. *Ceryle alcyon*, (Linn.) *Boie.* BELTED KINGFISHER. — Noticed at Big Lake, Grant County, and several along the Minnesota River at Brown's Valley.

42. *Coccyzus erythrophthalmus*, (Wils.) *Bp.* BLACK-BILLED CUCKOO. — Common. Nest and one fresh egg found, June 17, at Brown's Valley.

43. *Colaptes auratus*, (Linn.) *Sav.* GOLDEN-WINGED WOODPECKER. — Common. Young well advanced, June 7.

44. *Bubo virginianus*, (Gm.) *Bp.* GREAT HORNED OWL. — In the timber at Elbow Lake an old bird and two young, fully fledged and flying around, were seen. A large nest in a big oak near by evidently belonged to them.

45. **Otus vulgaris wilsonianus**, (*Less.*) *Allen.* — LONG-EARED OWL. — A single individual seen at Brown's Valley.

46. **Circus cyaneus hudsonicus**, (*Linn.*) *Schl.* MARSH HAWK. — Common all over the prairie.

47. **Buteo borealis**, (*Gm.*) *Viell.* RED-TAILED HAWK. — Seen at both places.

48. **Buteo borealis krideri**, *Hoopes.* KRIDER'S BUZZARD. — On the 17th of June we took from one of the large cotton-wood trees on the border of the Minnesota River, in Brown's Valley, a young Hawk, not more than a week old, which we brought back to Minneapolis with us. The parent bird soared above the nest while the young bird was being taken, and her noticeably white appearance attracted our attention at once, and we judged her to be of this species. The growth of the young bird has gradually confirmed this idea, as it now, at the age of nearly three months, shows unmistakable evidences of being this light variety of the Red-tailed Hawk. Its general appearance is white, including the back and tail. The forehead and broad superciliary lines are of a buffy tinge, as is also the whole breast, becoming pure white on the belly and under tail coverts. There are a few dark spots between the tibiae and upon the flanks, but not nearly approaching the quantity on the young of *B. borealis* or *calurus*. This bird has become very tame, and is a great pet, allowing itself to be handled, and distinguishes persons.

49. **Buteo swainsoni**, *Bp.* SWAINSON'S HAWK. — A nest and three eggs of this Hawk were taken at Brown's Valley from one of the large cotton-wood trees before alluded to. It was situated in a fork against the trunk, about forty feet from the ground, and was built of dry sticks and lined with a few green twigs of the cotton-wood. The eggs were very far advanced in incubation. Two of them are of a dirty white color, unmarked, while the third is covered with very fine spots and dashes of pale brown, thickest at the smallest end. The measurements are as follows: 2.25×1.75 (the spotted one); 2.22×1.68 ; 2.18×1.72 . The nest measured, internal diameter $9\frac{1}{2}$ inches, depth $2\frac{3}{4}$; external diameter 19 inches. A very fine specimen of this bird was shown us by Mr. J. N. Sanford, of Elbow Lake, at which place he had recently captured it.

50. **Buteo pennsylvanicus**, (*Wils.*) *Bp.* BROAD-WINGED HAWK. — A single individual seen at Herman.

51. **Cathartes aura**, (*Linn.*) *Ill.* TURKEY-BUZZARD. — Several seen at Herman and Elbow Lake.

52. **Ectopistes migratoria**, (*Linn.*) *Sw.* WILD PIGEON. — A single specimen seen at Brown's Valley.

53. **Zenædura carolinensis**, (*Linn.*) *Bp.* CAROLINA DOVE. — Common.

54. **Pediocetes phasianellus columbianus**, (*Ord*) *Cs.* SHARP-TAILED GROUSE. — The common Grouse of this region.

55. *Cupidonia cupido*, (Linn.) Bd. PINNATED GROUSE. — Several seen at Herman.

56. *Ægialitis vocifera*, (Linn.) Bp. KILLDEER PLOVER. — Very common. Five nests found around the shore of a single lake.

57. *Steganopus wilsoni*, (Sab.) Coues. WILSON'S PHALAROPE. — Somewhat common at Herman and vicinity.

58. *Philohela minor*, (Gm.) Gray. WOODCOCK. — A single bird seen at Elbow Lake, June 13.

59. *Ereunetes pusillus*, (Linn.) Cass. SEMIPALMATED SANDPIPER. — A small flock of some five or six seen at Herman.

60. *Tringa maculata*, Vieill. PECTORAL SANDPIPER. — Rather common.

61. *Limosa fedoa*, (Linn.) Ord. GREAT MARBLED GODWIT. — Abundant, frequenting the shores of lakes and ponds, and low, moist prairie. Though breeding in great numbers the most diligent search failed to reveal its nest. The difference between the sexes, as before mentioned, was most noticeable. The measurements (in inches and hundredths) of a series of ten skins taken in the flesh are as follows: —

No.	Sex.	Length.	St. of Wing.	Bill.
2	♀	19.62	33.87	4.87
28	♀	19.37	32.75	4.62
32	♀	18.12	32.00	4.54
56	♀	19.25	32.75	5.06
68	♀	19.12	32.75	4.79
4	♂	17.62	31.25	3.96
30	♂	17.12	30.75	3.83
58	♂	16.75	31.50	3.66
60	♂	16.50	30.50	4.00
63	♂	17.00	31.50	3.75
Average, ♀		19.10	32.82	4.77
Average, ♂		17.00	31.10	3.84
Difference,		2.10	1.72	.93

62. *Totanus semipalmatus*, (Gm.) Tenon. WILLET. — Common and breeding.

63. *Tringoides macularius*, (Linn.) Gray. SPOTTED SANDPIPER. — Several birds seen. Not at all common. *A. vocifera* is the most noticeable shore bird.

64. *Actiturus bartramius*, (Wils.) Bp. UPLAND PLOVER. — Abundant, nesting often in wheat-fields. Eggs nearly incubated taken June 13.

65. *Ardea herodias*, Linn. GREAT BLUE HERON. — A few seen around the lakes in the vicinity of Herman. Probably nesting in the timber about Elbow Lake.

66. *Botaurus minor*, (Gm.) Boie. BITTERN. — Common. Nest and one freshly laid egg found in a meadow, June 7.

67. *Grus americana*, (Linn.) Temm. WHOOPIING CRANE. — A large white bird, seen in company with a pair of the following species, supposed to be this bird, as it is said by residents to breed here.

68. *Grus canadensis*, (Linn.) Temm. SAND-HILL CRANE. — Common; several pairs seen on the low ground bordering the Mustinka River.

69. *Porzana carolina*, (Linn.) Cub. CAROLINA RAIL. — Common, several nests found, but without eggs.

70. *Fulica americana*, Gm. COOT. — Several seen around Herman in suitable sloughs.

71. *Anas boschas*, Linn. MALLARD. — Common. A nest found June 10, with eight freshly laid eggs, was in a bunch of dry grass in a meadow. Another, taken June 20, containing ten eggs in various stages of incubation, was placed in a thick clump of bulrushes in a slough where the water was several inches deep. The female was on the nest in each instance.

72. *Chaulelasmus streperus*, (Linn.) Gray. GADWALL. — The common Duck of this locality, being quite as abundant as the Mallard, if not more numerous. A nest and eleven fresh eggs taken June 20, in a wheat-field some distance from water. On June 14, when the nest was first examined, the parent was absent, and the eggs were covered with a light layer of down and grass. On the 20th, the female was sitting, and was shot as she left the nest. The nest was simply a bowl-shaped cavity scratched in the ground, and lined with short dry grass and down. The internal diameter of the nest at the top, before it was disturbed, was 7 inches by about $3\frac{1}{2}$ in depth. There was no concealing vegetation around it, the wheat being still very short. The eggs are rather broadly elliptical in outline, and of a uniform cream-color. The average of the eleven eggs is 2.04 inches in length by 1.54 inches in breadth.

73. *Querquedula discors*, (Linn.) Steph. BLUE-WINGED TEAL. — Very common. Nest and twelve eggs, nearly fresh, taken in a meadow around a slough at Herman, June 20.

74. *Spatula clypeata*, (Linn.) Boie. SHOVELLER. — Common.

75. *Aix sponsa*, (Linn.) Boie. WOOD DUCK. — Common. A nest with eggs found in a deep hollow in a tree at Elbow Lake, June 13.

76. *Fuligula ferina americana*, (Eyt.) Coues. RED-HEAD. — Several pairs seen around Herman.

77. *Fuligula vallisneria*, (Wils.) Steph. CANVAS-BACK. — About a dozen pairs seen on a sand-bar in Mustinka River, near Lake Traverse, and also a pair at Elbow Lake.

78. *Pelecanus trachyrhynchus*, Lath. WHITE PELICAN. — As this trip was especially undertaken with a view of visiting a Pelican roost or camp in the vicinity of Herman, of which vague rumors had reached us in Minneapolis, our disappointment was rather keen in not finding the birds there the present season. The fact that they were formerly there

we fully substantiated. Their nesting-place was about fifteen miles north-westerly from Herman, on the border of a small stream, nearly choked with grass, called the Mustinka River. They were discovered about the last of June, 1878; and frequent visits were paid to them by the inhabitants of Herman, who considered it a nine-days wonder. A number of eggs had been taken, and the birds were otherwise greatly disturbed, so that this year they had deserted the locality. Although we spent a whole day in the search we were unable to find them. We saw several, however, at Brown's Valley and on Lake Traverse, but we were unable to discover their nesting-place.

79. *Graculus dilophus*, (Sw.) Gray. DOUBLE-CRESTED CORMORANT. — Seen several times in Grant County. Probably breeds in the timber at Elbow Lake.

80. ? *Larus delawarensis*, Ord. RING-BILLED GULL. — A single large Gull seen, supposed to be of this species.

81. *Larus franklini*, Rich. FRANKLIN'S ROSY GULL. — Common. This bird, in common with several others, has a habit of following the breaking-teams to pick up the insects and grubs turned up with the fresh soil. It is called by the farmers the Prairie Dove.

82. *Sterna forsteri*, Nutt. FORSTER'S TERN. Abundant in both counties. The condition of the birds shot showed plainly that they were nesting, but we were unable to find the eggs.

83. *Hydrochelidon lariformis*, (Linn.) Coues. BLACK TERN. — Abundant.

84. *Colymbus torquatus*, Brunn. LOON. — Common.

85. *Podiceps cornutus*, Lath. HORNED GREBE. — Several Grebes seen in a pool near Herman appeared to be of this species.

86. *Podilymbus podiceps*, (Linn.) Lawr. PIED-BILLED GREBE. — Common; seemed to be just building, June 10.

ON THE NESTING IN MISSOURI OF *EMPIDONAX ACADICUS* AND *EMPIDONAX TRILLI*.

BY DR. ELLIOTT COUES, U. S. A.

THOUGH we have heard of late a good deal about the nesting of our small Flycatchers, there is yet room for remarks upon the same subject; for our standard works have, perhaps without exception, given a life so vigorous to certain errors, that numerous contributions to this Bulletin from competent observers are no more than required to set the matter clearly forth. It is none too easy to tell

the birds themselves apart, especially when we only study their dried skins, and when we come to their nests and eggs great caution is necessary to avoid mistakes.

It is safe to say that Wilson's, Nuttall's, Audubon's, Brewer's, and the present writer's published biographies contain some chaff with the wheat; and it is not safe to rely entirely upon the accounts these authors have given in their respective works, without verifying their accuracy in every particular by reference to the articles which have appeared in this Bulletin.*

Let me premise, that the only *Empidonax* whose nests and eggs I have myself studied *in the field*, is *E. minimus*, a perfectly reliable account of which, as observed in Dakota, is given in "The Birds of the Northwest." Whatever other accounts I have published are compiled, or, at most, are original only in so far as my handling of cabinet specimens goes.

Messrs. Purdie, Osborne, and Batchelder are severally at present of our most reliable authorities in the case of *E. flaviventris*.

Mr. H. W. Henshaw is the writer to whom we may turn with most confidence for information respecting the two other Eastern species, *E. trailli* and *E. acadicus*; and one object of the present paper is to confirm and amplify his accurate observations. Another purpose to be subserved in this instance is to show how much the nidification of these species varies with circumstances (compare the foot-note beyond).

From Mr. O. Widmann, 4024 Carondelet Avenue, St. Louis, Missouri, I received last June an interesting letter relating to Traill's and the Acadian Flycatchers, together with a welcome present of five pretty nests, three of the former and two of the latter species, each with its complement of nicely prepared and labelled eggs. These I wish to describe. But first let me give extracts from Mr. Widmann's interesting letter:—

"DEAR SIR:— Allow me to present you with a few nests of *Empid. trailli* and *acadicus*, which by themselves may be of no value, but which

* HENSHAW on *E. trailli* and *E. acadicus*, I, April, 1876, pp. 14–17. — PURDIE on *E. trailli*, as observed in Maine, I, Sept., 1876, pp. 75, 76. — PURDIE on *E. flaviventris*, III, Oct., 1878, pp. 166–168. — OSBORNE on the same, *ibid.*, pp. 187, 188, and IV, Oct., 1879, pp. 240, 241. — BATCHELDER on the same, *ibid.*, pp. 241, 242. — HAYWARD on a spotted egg of *E. minimus* [?], *ibid.*, IV, April, 1879, p. 124. — See also BREWER on 8 species of *Empidonax*, Proc. U. S. Nat. Mus., II, April, 1879, pp. 1–10.

gain some interest from the part of the country whence they come; as it seems to be not generally known that these two birds are common summer residents in the county of St. Louis, Mo. . . . I experienced not the slightest difficulty in identifying all the species I met with, excepting the small Flycatchers, which seem to be the stumbling-block of more experienced ornithologists than myself. . . . Not that I had much difficulty in distinguishing our Flycatchers in the field, which is very easy, having had such good opportunity; but to bring my observations in accord with what all the books say, — that is where I experienced so much trouble that I concluded to let you know some of these experiences. [*]

"The birds I am writing of are *Empidonax trailli* and *acadicus*. Both are summer residents in this county: *acadicus* in the forest only, but there very abundant, — that means, one pair to every few acres; *trailli* is common almost everywhere outside the forest, not only along the 'willow thickets bordering streams and swamps,' but even here in the city, in all large gardens, parks, orchards, pastures, cemeteries, etc.

"*Trailli* is not the shy or retiring bird of some Eastern writers; its movements are not 'hidden by the foliage of trees,' as its station is generally on a prominent point, often the very top of a shrub or tree, or a telegraph-wire, a fence, a weed-stalk. 'It would be quite difficult to detect the presence of this small Flycatcher when the leaves are on the trees, were it not for its notes, which are quite peculiar, sounding like the syllables *ke-wick*, rather slowly given, etc.,' says Maynard. I have heard this call hundreds of times, as it is a very noisy bird in the middle part of May, and may be heard all summer by an early riser; but I can never make a '*ke-wick*' out of this song; very easily can I make 'pretty dear,' the translation Mr. Ridgway gives for the call of *E. pusillus*.

"A different call is it again when Minot says: 'Their ordinary note is a slightly querulous *pu*, which is often repeated, and which recalls the voice of the Great Crested Flycatcher. Another note is *pu-cé*: . . . their song-note . . . resembles the syllables *chebé-u*,' etc. All this is totally at variance with my observations. . . .

"In full accordance with my observations is Mr. Henshaw's account of these two birds in the Bulletin, 1876, pp. 14-17, and I indorse with pleasure his account of the nest architecture of the birds. He says that *E. trailli* builds in an upright fork. This is not to be understood that it must be an upright branch; the branch may be horizontal or drooping, but the nest will be fastened to twigs which spring up and form an upright crotch. I have seen many nests of *acadicus* in the woods, as they are easily found, hanging in conspicuous places between 12 and 25 feet above ground. They were all made alike, the only difference being that some were more difficult to collect than others, hanging on slender limbs far from the trunk

[* Mr. Widmann's experience is not singular; and what capital satire, albeit unconscious! — C.]

of the tree. I would have sent you more of these beautiful *acadicus* nests, but the good idea came a few days too late, all the birds having young ones, which I would not disturb.

"I think the discrimination between the eggs of *acadicus* and *trailli* will prove to be just as nice and delicate as that between the birds themselves; being much easier, however, with fresh, unblown eggs, as the finer tints lose much by blowing, — as much as the fresh skin of *E. acadicus* loses of the 'clear, continuous, and uniform olive-green' by drying.

"My reasons for sending you these nests and eggs are, therefore: — 1. To aver the presence of these birds in this county. 2. To illustrate Mr. Henshaw's observations. 3. Last, but not least, to give you pleasure, as the present is offered as a token of the great esteem I have for you, and in a sense of gratitude for what you have done and still do for this most beautiful branch of natural science. . . .

"Very truly yours,

"OTTO WIDMANN."

Respecting the specimens thus courteously submitted to my inspection I have a few remarks to offer.

Empidonax acadicus. The two nests of this species are *strikingly* different from the three of *trailli* in structure, in material, and in position. They appear to have been taken from long, slender, horizontal branchlets, in the *horizontal* forks of which they rest. They are *shallow* nests, — in fact, rather saucer-like than cup-shaped, some $3\frac{1}{2}$ inches across outside, by less than 2 inches in depth; the cavity over 2 inches across the brim, by scarcely 1 inch in depth. They are very light, "open-work" structures, so thinly floored that the eggs may have been visible to one looking up from below; and the walls, though more compact, still let daylight through on all sides. These nests, in short, may be compared to light hammocks swung between forks. Each is composed almost entirely of long walnut (*Carya*) aments, which, drooping in slender sprays from all sides, give a tasteful, airy effect to these pretty structures. There is a slight lining in each case of slender grass-stems and still finer rootlets, loosely interlaid in every direction on the bottom, rather circularly disposed around the brim. These specimens were taken June 13 and 18, 1879, in hickory woods, at altitudes of 10 and 15 feet. One deserted nest had a single egg; the other three, much incubated. Independent of the pink blush which the fresh egg may display, the shell after blowing, while yet unaltered, has a decidedly creamy tint, not quite so noticeable on that of *E. trailli*. They are spotted with rich burnt umber, chiefly

about the larger end, where the spots are wreathed in one, but more generally distributed in three others; the markings including some large, bold blotches in the latter.

Thus the nest of *acadicus* is decidedly different from that of *trailli*; but the eggs of the two are not distinguishable with certainty.

Empidonax trailli. The situation, materials, and whole style of architecture of these three nests are different from those of *acadicus*, and are identical with those of *E. minimus* (eggs of which latter are pure white, unmarked). They are built in each case on a stouter bough, in the upright crotch formed by two or several twigs springing up from the main stem; being compact, thick-walled, and deeply-cupped structures, let firmly down into the crotch, — the twigs either grooving the walls, as in one instance, or imbedded in the substance of the nest, as in the other two cases. The outside diameter is nearly or about 3 inches, while the depth in one case is quite as much, but in the other two about half an inch less. The cavity is scarcely or about 2 inches, with a depth of fully $1\frac{1}{2}$ inches, so deeply cupped are these structures. In the smallest, neatest, and most globular specimen the brim is even contracted, so that the diameter a little ways down is greater than at the top. These city nests are stoutly built of slender grasses, rootlets, and a variety of bleached vegetable substance disintegrated beyond recognition. Two are lined with very fine grass stems or rootlets; a third, with these and horse-hairs; one has some bits of twine worked into the walls, and in another some large feathers, apparently from the poultry-yard, have been similarly used. The walls, and especially the flooring, are thick and compact, and the brim is firm.* One, with four eggs, was taken, June 14, from an oak-tree, at an eleva-

* In transmitting the proofs of this article, Mr. Allen kindly sends me a New England nest of *E. trailli*, selected as an average example of a large series, and is at pains to indicate in a letter how much such specimens differ from Western ones; though it is to be observed that they nevertheless bear out the distinctions above given from *E. acadicus*, being thick deep cups, not thin flat saucers. Says Mr. Allen: "I could not understand your comparative diagnoses of nests of *E. trailli* and *acadicus* until Mr. Brewster showed me a series of nests of *E. trailli* from Ohio; for in New England *E. trailli* builds an entirely different nest from what it does in Ohio and Missouri. The New England nests (Maine, New Hampshire, and Vermont specimens) are scarcely distinguishable from the ordinary nest of *Cyanospiza cyanea*, and consequently suggest no comparison with the nest of *E. minimus*, they being bulky structures of coarse materials, which no one would think could belong to the species

tion of 10 feet ; another, with three eggs, June 21, from an elm. at a height of 18 feet ; the third, with a single egg, June 17, from an ailanthus, only 6 feet from the ground. The eggs were all fresh at these dates. The eggs are so similar to those of *acadicus* that no one should presume to tell them apart with any show of confidence.

It is permitted to us, in the present state of our knowledge, to formularize the distinctions which *normally* subsist between the four Eastern species of *Empidonax*, as follows ; and it will be observed with satisfaction, that they may be distinguished when site of nests, structure of nests, and character of eggs are together taken into consideration :—

E. acadicus. Nest in trees, in horizontal fork, thin, saucer-shaped, open-worked ; eggs creamy white, boldly spotted.

E. trailli. Nest in trees, in upright crotch, thick, deeply cupped, more or less compact-walled ; eggs creamy white, boldly spotted.

E. minimus. Nest in trees, in upright crotch, deeply cupped, compact-walled ; eggs immaculate white.

E. flaviventris. Nest on ground or near it, deeply cupped, thick and bulky ; eggs white, spotted.

ADDITIONAL CASES OF ALBINISM AND MELANISM IN NORTH AMERICAN BIRDS.

BY RUTHVEN DEANE.

SINCE my last list of albinistic and melanistic plumages occurring among our birds (Bulletin, Vol. IV, pp. 27–30), I have been enabled to swell the number by the addition of thirty-nine species representing the former, and two representing the latter phase of plumage. For the references to a number of species in Naumann's

building the small, compact nests of soft materials that come to us from Ohio through Dr. J. M. Wheaton, or from Missouri through Mr. Widmann, such as you describe. It seems to me also noteworthy that *E. trailli* breeds in the interior so much further south than it does in the Atlantic States, where, though noted as breeding sparingly as far south as Long Island, it rarely nests in New England south of the Canadian Fauna, or south of Central and Northern Maine and corresponding points in Vermont and New Hampshire. (See on this point Purdie, 'The Country,' of May 4, 1878. Compare further, on the general subject, Pearsall and Bailey, *ibid.*, of April 20, 1878, and Purdie, 'Forest and Stream,' of April 25, 1878.)"

"Naturgeschichte der Vögel Deutschlands," and several seen in the collections of foreign Museums, I am indebted to Dr. James C. Merrill, U. S. A., who has very kindly placed at my disposal a long list of such species which he made while travelling through Europe, a number of which are cosmopolitan.

During the past year I have seen and heard of a great many instances of albinism, numerous examples of which belong to species which I have previously given, and I have to thank many of the readers of the Bulletin for information which they have kindly communicated to me. Among some interesting specimens, I may mention a young Crow, pure white when taken from the nest. A pure white Chipping Sparrow, in first plumage, is in possession of Mr. N. C. Hammond. A Golden-winged Woodpecker, which I obtained from a dealer in Providence, R. I., and which was shot near that city, is a beautiful specimen, the red nuchal patch and the golden shafts of the feathers of the wings and tail being the only normal colors remaining, the rest of the plumage being a creamy white. An adult Red-tailed Hawk, trapped at Tyngsborough, Mass., is pure white with the exception of two tail-feathers, which retain the usual color. Two specimens of Brewer's Blackbird, one all white and the other pied, collected at Fort Walla Walla, Washington Territory, and kindly presented to me by Capt. Charles Bendire, U. S. A. Albino examples in this latter species seem to be of very common occurrence. Besides these specimens, Captain Bendire writes that he has seen several more or less spotted in Idaho and Oregon. Mr. H. W. Henshaw informs me that he has observed them in several localities in the West, and Mr. C. A. Allen of Nicasio, California, writes: "I had a very interesting specimen brought to me for mounting, a male albino *Scolecophagus cyanocephalus*, pure white, not a dark feather in it; the bill was also white; the feet had a bluish cast."

Dr. Merrill's list enumerates some two hundred species of exotic birds, which I shall record in a future issue of the Bulletin.

ALBINISTIC PHASE.

1. **Turdus swainsoni ustulatus.** OREGON THRUSH. — Dr. J. C. Merrill has kindly sent me a specimen of this Thrush which he shot at Fort Shaw, Montana, May, 1879, the interseapulars of which present a hoary appearance, the feathers being only tipped with white.

2. **Harporhynchus rufus.** BROWN THRUSH. — Examined a fine specimen, dull white, with darker shading at the extremities. Shot at Norwood, Mass., April 9, 1879.

3. **Saxicola œnanthe.** WHEAT-EAR. — Specimens in the Museums at Dresden, Saxony, and Berne, Switzerland (*Merrill*).

4. **Sitta carolinensis.** WHITE-BELLIED NUTHATCH. — In a communication recently received from Mr. A. K. Fisher, he informs me of an albino specimen of this species, which is the first I have heard occurring in the *Sittidae*. It was taken near Sing Sing, N. Y., Nov. 5, 1879. It was pure white, except a narrow dark stripe on the crown.

5. **Lophophanes bicolor.** TUFTED TITMOUSE. — Two specimens showing partial albinism are recorded in the Bulletin (Vol. IV, p. 16), by Mr. F. W. Langdon.

6. **Budytes flava.** YELLOW WAGTAIL. Albinism not uncommon in this species (*Merrill*).

7. **Anthus pratensis.** TITLARK. — Specimens in the Museums at Antwerp, Holland, and Nice, France (*Merrill*).

8. **Pyranga rubra.** SCARLET TANAGER. — Mr. F. T. Jencks, of Providence, R. I., has kindly sent me a specimen with the outer primary of one wing white, shot at Cranston, R. I., May, 1878. In a recent letter from Mr. F. A. Lucas of Rochester, N. Y., he mentions having seen a Tanager of this species with five of the tail-feathers white.

9. **Pinicola enucleator.** PINE GROSBEEK. — In Naumann's "Naturgesch. der Vögel Deutschl." (Vol. IV, p. 416), it is stated that a white or whitish variety has been described, but that it is of very rare occurrence. He says an example is figured in Sparrmann's "Mus. Carls." (plate 17), under the name *Loxia flamengo*, and is introduced by Gmelin in his "Linn. Syst. Nat." (Vol. II, pt. 2, p. 864), as a species.

10. **Leucosticte tephrocotis littoralis.** HEPBURN'S GRAY-CROWNED FINCH. — Capt. Charles Bendire sends me record of a specimen, showing traces of albinism on the throat, which he shot at Camp Harney, Oregon, in the winter of 1876-77.

11. **Ægiothus canescens.** REDPOLL. — A specimen in the British Museum (*Merrill*).

12. **Poœcetes gramineus.** GRASS FINCH. — I am indebted to Mr. Wm. Brewster for a specimen of this Bunting, showing white secondaries on both wings; and Mr. A. K. Fisher collected a very light specimen at Sing Sing, N. Y., Oct. 27, 1879, which had the appearance of a white bird when flying. Mr. Henry Garrett of White Horse, Penn., also has a partial albino in his collection. The example of albinism in this species mentioned in the Bulletin (Vol. I, p. 21) proved to be another species.

13. **Passer montanus.** MOUNTAIN SPARROW. — A specimen in the collection of the Museum at Boston, Mass. (*Merrill*).

14. **Calamospiza bicolor.** LARK BUNTING. — Dr. W. J. Hoffmann states (Am. Nat., Vol. XII, p. 476) that he has noticed white feathers scattered indiscriminately over the neck and breast in a number of specimens secured on Heart River in Dakota Territory.

15. **Goniaphea ludoviciana.** ROSE-BREASTED GROSBK. — A specimen which I have examined, taken on Cape Cod, Mass., Sept., 1879, had many white feathers intermixed with the black of the head and interscapulars.

16. **Pipilo erythrophthalmus.** TOWHEE BUNTING. — I am indebted to Mr. L. M. Loomis for description of a partial albino "Chewink," which he shot in Chester, S. C., in 1878. "Above black, heavily mottled with white, the white predominating on the head, cervix, rump, and upper tail-coverts; below, breast and neck black, mottled with white, the former with a large white crescent; remaining under-parts normal; white on the primaries greatly extended, equalling one and one half inches in length; white on the tail of greater extent than in normal examples."

17. **Pipilo fuscus mesoleucus.** CAÑON TOWHEE. — Capt. Charles Bendire informs me that in the fall of 1872 he shot a specimen near Tucson, Arizona Territory, which was uniformly spotted with white, the latter color perhaps predominating.

18. **Corvus corax.** RAVEN. — A specimen in abnormal plumage is described in "Fauna Boreali-Americana" (Vol. I, p. 291). "A pied individual was killed on the south branch of the Mackenzie, from a flock of the common sort. Its neck, fore part of the back, and part of the wings were gray; the rest of its plumage black."

19. **Milvulus forficatus.** FORK-TAILED FLYCATCHER. — A specimen in the Derby Collection, Liverpool, England (*Merrill*).

20. **Trochilus colubris.** RUBY-THROATED HUMMING-BIRD. — An albino Hummer, thought to be a little larger than the Ruby-throat, is mentioned in the "American Naturalist" (Vol. II, p. 110), but no locality is given.

21. **Selasphorus anna.** ANNA HUMMING-BIRD. — An albino Hummer of this species is recorded in the Bulletin (Vol. III, p. 192), by Mr. C. A. Allen, taken at San Rafael, Cal.

22. **Picus villosus.** HAIRY WOODPECKER. — Under date of March 10, 1879, Mr. Frank R. Rathbun, of Auburn, N. Y., writes: "Messrs. Gilbert and Flahive, of Penn Yan, N. Y., have in their possession five specimens of *P. villosus* representing albinism. Through the kindness of Mr. Flahive I have been enabled to make a drawing of one of them, which I send you. What seems remarkable is the fact that the specimens mentioned are all precisely alike in their details of color. No dates or record of sex were taken at the time of shooting; the birds, however, have been obtained during the past two or three years." The well-figured coloring shows that the usual black markings of the bird are replaced by a light chestnut-brown, and represents a very strange-looking Woodpecker.

23. **Melanerpes erythrocephalus.** RED-HEADED WOODPECKER. — Mr. Henry Garrett has favored me with a letter regarding species affected by albinism in his collection, among which is a Red-headed Wood-

pecker *pure white*, even the tarsi, toes, and bill.* It was shot, Oct. 10, 1871, in Williamstown, Penn.

24. *Cathartes aura*. TURKEY BUZZARD. — Mr. S. N. Rhoads, of Haddonfield, N. J., informs me of a specimen which he saw in Pennsylvania, August, 1879, showing white primaries and secondaries of both wings. Mr. C. H. Nauman records an albino *C. aura*, shot near Smyrna, Fla. (Am. Nat., Vol. IV, p. 376).

25. *Buteo vulgaris*. COMMON BUZZARD. — In Naumann's work already cited (Vol. I, p. 351), several specimens in albinistic plumage are described, — white, with larger or smaller brown spots, sometimes few and sometimes many.

26. *Aquila chrysaetos*. GOLDEN EAGLE. — Naumann (Vol. I, p. 211) cites Gmelin's *Falco albus* as a white variety of this species, and says that a wholly white variety doubtless occurs.

27. *Meleagris gallopavo*. WILD TURKEY. — In the winter of 1878-79 I saw a specimen entirely white said to have come from the West.

28. *Pediceetes phasianellus columbianus*. — COMMON SHARP-TAILED GROUSE. — Capt. Bendire writes me that specimens showing albinistic traces have been observed by him.

29. *Lophortyx gambeli*. GAMBEL'S PARTRIDGE. — Partial albino specimens not uncommon (*Bendire*).

30. *Scolopax rusticolor*. EUROPEAN WOODCOCK. — Albinos are not of rare occurrence (*Merrill*).

31. *Tringa canutus*. RED-BREASTED SANDPIPER. — An instance of albinism cited in the "Zoölogist," Vol. IX, 1851, p. 3116 (*Merrill*).

32. *Calidris arenaria*. SANDERLING. — Mr. Geo. E. Browne, of Dedham, Mass., shot an albino Sanderling at Cotuit, Mass., Oct. 22, 1879. The bird was pure white, with the exception of a faint line on the head. In the "Zoölogist," Nov. 1879, p. 460, Mr. C. M. Adamson records a *white* Sanderling which was shot at Newcastle-on-Tyne, England, Aug. 28, 1879, "nearly all white; the centre of the head cream-color, shaded to white, gradually and evenly marked there as elsewhere. Beak and legs olive."

33. *Limosa hudsonica*. HUDSONIAN GODWIT. — A specimen in the Museum at Amsterdam, Holland (*Merrill*).

34. *Numenius longirostris*. LONG-BILLED CURLEW. — Specimens cited in Naumann's "Naturgesch. der Vögel Deutschl.," and in London "Field" of March 26, 1870 (*Merrill*).

35. *Numenius hudsonicus*. HUDSONIAN CURLEW. — A specimen in the Derby Museum, Liverpool, England (*Merrill*).

* In many descriptions of *pure* albinism, the bill, tarsi, feet, claws, etc. are also given as being *white* like the plumage. In such examples I have generally found the bill, feet, etc., light flesh-colored, but never of a milky whiteness.

36. *Ædemia americana*. AMERICAN BLACK SCOTER. — A specimen recorded in Am. Nat. (*Merrill*).

37. *Querquedula crecca*. ENGLISH TEAL. — Specimen in the Museum at Nice, France (*Merrill*).

38. *Stercorarius parasiticus*. RICHARDSON'S JAEGER. — Naumann mentions (*Naturgesch. der Vögel Deutschl.*, Vol. X, p. 518) specimens having single white feathers or spots of white feathers mixed with the usual brown color.

39. *Fratercula arctica glacialis*. LARGE-BILLED PUFFIN. — Specimen mentioned in the "Zoölogist" (*Merrill*).

MELANISTIC PHASE.

1. *Passer domestica*. ENGLISH SPARROW. — In Naumann's work (Vol. IV, p. 458), he says: "Finally there is still a black variety, *Fringilla domestica nigra*, which is wholly coal-black or brownish-black." Three specimens in this dark phase are in the Museum at Munich, Germany (*Merrill*).

2. *Anas boschas*. MALLARD. — Naumann (Vol. II, p. 589) says: "A very beautiful and very rare variety is black." He mentions a male in high breeding plumage, in which the whole plumage is so dark that it appears as though one saw the usual coloration through a pretty thick black veil.

ON SIX SPECIES OF BIRDS NEW TO THE FAUNA OF ILLINOIS, WITH NOTES ON OTHER RARE ILLINOIS BIRDS.

BY ROBERT RIDGWAY.

THE already large list of Illinois birds is materially increased by the addition of the following six species, which brings the number up to 346, not including several species of doubtful occurrence.

1. *Zonotrichia querula*. HARRIS'S FINCH. — Under date of December 4, 1879, Mr. W. H. Garman, of the Illinois State Laboratory of Natural History, at Normal, writes as follows: "I desire to call your attention to the fact that there are in the collection of this Laboratory two specimens of *Zonotrichia querula* taken by the writer, one in the spring of 1877, near Bloomington, Illinois, the other on the 14th of November, 1879, near this place, and in company with *Z. leucophrys*." The species was included by Mr. Nelson in his list of the birds of Northeastern Illinois, on the strength of a specimen being taken at Racine, Wisconsin, by Dr. Hoy.

To Mr. Garman, therefore, belongs the credit of its discovery within the State of Illinois.

2. **Buteo harlani.** HARLAN'S BUZZARD. — Mr. Chas. K. Worthen, of Warsaw, Illinois, informs me that in March, 1879, he collected a fine adult male of this species, near that place. "Two of them were seen at the time, flying up the Mississippi River, apparently following the flight of Water-fowl which were then coming north in great numbers."

3. **Platalea ajaja.** ROSEATE SPOONBILL. — Although this species, like the Parakeet and Ivory-billed Woodpecker, may not now occur within the limits of the State, I have the word of a reliable collector, Mr. A. Wolle, of Baltimore, Md., that some twenty years since it was not uncommon in certain localities in the Mississippi bottoms, in Illinois, below Saint Louis, where Mr. W. obtained a number of specimens. It may still occur in secluded localities in the extreme southern part of the State.

4. **Pelecanus fuscus.** BROWN PELICAN. — The occurrence of this maritime species so far inland is certainly very remarkable; but there seems no doubt of its having wandered, at least on one occasion, so far from the Gulf coast. Mr. Worthen writes me that he "saw a specimen of this bird flying over Lima Lake, a large shallow body of water ten miles below here [Warsaw, Illinois], in October, 1873. The bird was not over a hundred yards from myself and two or three others, and we watched it for several minutes, none of us having ever seen anything like it *alive*, before or since. It was flying toward the Mississippi River at the time, and though we all looked for it afterward it could not be found. Now I know that *P. fuscus* is considered a *strictly maritime* bird; but if it was not *P. fuscus*, what could it have been? It had the color, bill, and size of that species. . . . I am satisfied in my own mind, and give the facts for what they are worth."

5. **Graculus mexicanus.** MEXICAN CORMORANT. — Mr. Worthen reports that last spring he "received a skin of this species labelled 'Near Cairo, Illinois.' It was in summer (not adult) plumage." He was not able to trace the specimen, so that there is room for doubt as to the locality. Still, there can hardly be a question of its occurrence in Southern Illinois, considering the known range of the species, and the locality given on the label is very probably correct.

6. **Stercorarius buffoni.** LONG-TAILED JAEGER. — For the following concerning the occurrence of this species in Illinois, I am indebted to Prof. W. H. Ballou, of Evanston, who communicated the facts to me as long ago as March, 1878: "It may be of some value to you to know that I picked up *dead* on the Mississippi shore, near Cairo, Illinois, a specimen of Buffon's or the Long-tailed Jaeger. The specimen was obtained in November, 1876. It might have been killed, or died, at the head-waters of the Mississippi or Missouri River, and floated down, for all I know. It was too much decayed to preserve, and seemed to have been dead a number of days. After an examination by myself and a friend, we were compelled to throw it away."

The six species enumerated above reduce the number of "probabilities" given by me (in 1874) in my "List of Birds ascertained to occur in Illinois," from 43 to 28, or more than one third, the subsequent additions including several species not included among the species given as likely to occur, e. g. *Dichromanassa rufa*, *Platalea ajaja*, and *Pelecanus fuscus*. A thorough exploration of the swampy country in the vicinity of Cairo would no doubt result in the addition of other Southern species, perhaps some hardly to be thought of as occurring so far north. Of the 28 species still remaining in the list of species "to be looked for," *Helinaia swainsoni* very probably occurs (see this Bulletin, Vol. III, p. 163).

Mr. Worthen has favored me with interesting notes on several other of the rarer or more interesting species of Illinois, which, with his permission, I take pleasure in recording here:—

Coturniculus lecontei. LECONTE'S BUNTING.—"I have taken in the last two years, on the prairies here, some twenty specimens; have taken them both in fall and spring, as well as during the summer, and am satisfied they breed here, though I have not been able to find their nests or eggs. I have found them on low swampy prairies in the Mississippi bottoms, and on dry prairies on the bluffs; but generally in swampy or marshy ground."

Ammodromus caudacutus nelsoni. NELSON'S SHARP-TAILED FINCH.—"Took a beautiful adult male, May 8, 1879; flushed him from a timothy meadow. The only one I have seen here."

Elanoides forficatus. SWALLOW-TAILED KITE.—"Saw one specimen flying last summer, and one this year, but did not succeed in getting either."

Protonotaria citrea and **Oporornis formosa.**—The Prothonotary and Kentucky Warblers are so numerous that Mr. W. takes "from fifty to a hundred each season."

Ibis alba. WHITE IBIS.—"I had a full account in my lost field-notes of one of these birds being taken in the southern part of the State." This species was observed by the writer in the spring of 1878, at Mount Carmel, but no specimen obtained (see this Bulletin, Vol. III, p. 166).

Larus franklini. FRANKLIN'S ROSY GULL.—"There is a beautiful adult male of this species mounted in the State Museum at Springfield, which I took in May, 1875. It was flying over a pond in the Mississippi bottom, three miles below here."

AN AFTERNOON IN THE VICINITY OF ST. MICHAEL'S,
ALASKA.

BY E. W. NELSON.

THE middle of August, 1878, after a series of northeasterly and southwesterly gales, the low, dense clouds that for days had alternately enveloped the land in misty fogs, or, lifting, had hurried by in a swift unbroken stream, at last disappeared. Through constantly widening patches of blue the sun showed its welcome face, and, like hermits, we emerged from our shelter to bask in his rays and relieve our oppressed spirits; for nothing makes loneliness more irksome than a long continuation of gloomy weather, of which this favored spot has an abundance and to spare. The sea going down rapidly, I concluded to make a trip to some small, rocky, outlying islands in the vicinity, where Puffins and other Sea Birds congregate, and some of the former breed. Donning a seal-gut over-shirt or kamlayka and a pair of seal-skin water-boots I embarked in my kyak and paddled out of the bay. Being rather out of practice at the time, I found that it required all my skill to prevent changing places with the bottom of the boat, as a heavy swell was still running in; so, to my chagrin, I was obliged to allow a large straggling flock of Arctic Terns (*Sterna macrura*), well sprinkled with Aleutian Terns (*Sterna aleutica*), to pass on either hand unmolested, as they circled here and there, perfectly regardless of my presence in their midst, except that one would now and then turn about with a harsh cry, as though admonishing me not to interfere with them. In a short time, recovering my dexterity, I rounded a low basaltic bluff on one end of the first island, and was in time to bring down a fine specimen of the Wandering Tattler (*Heteroscelus incanous*), as it started off with a loud ringing *klā' klā' klā'*. The report of the gun, re-echoing from the opposite bluffs, seemed to dislodge a perfect shower of Puffins from their resting-places about the entrances to their burrows. Each came whirring down by me, some almost into my face, to get a nearer view of the intruder; then, after a wide circuit, they returned and dropped heavily into the water a short distance off. The Common Puffins (*Mormon cirrhata*) I found far less numerous than the Horned

Puffins (*M. corniculata*), but they were equally curious. On entering a small cove, several males of the Surf Duck (*Eidemia perspicillata*) in full breeding plumage arose clumsily and with shrill whistling wings moved out to sea.

From some great basaltic boulders, on the seaward face of the island, which is itself a rock of the same material, half a mile long by a few hundred yards wide, there arose a large flock of Pacific Kittiwakes (*Larus tridactylus kotzebui*): scattering here and there, some alighted a short distance off in the water, others circled slowly overhead, while a few left at once for safer resting-places. Many of these Gulls were young, as could be plainly seen by the large dark patch on the back of the neck. Several were soon stowed away in the kyak. Now landing, I carried the boat up a few steps, and started to investigate the *Mormon* nurseries. Concealing myself in a convenient nook, but a short time elapsed before the old birds began returning, but almost instantly disappeared into their holes, to be greeted by low growling and snuffling noises, which one could easily imagine to be an animated curtain lecture by Mrs. Mormon. All the nests proved to be at the bottom of long, winding holes dug into the narrow, dirt-filled crevices with which the rocks abounded, thus rendering any attempt to reach the nests futile. The eggs had but recently been hatched, as could be ascertained by the thin, metallic piping of the young, easily heard when the ear was placed close to the entrance.

While I was scrambling about among the rocks, several Ravens were circling high overhead, uttering hoarse, croaking cries. The summit of the island is covered with a rank growth of grass and other herbage in which *Budyttes flava* is more abundant than I have seen it elsewhere. As I reached this part of the island several of these little wanderers came flying about my head, in long, swinging curves, uttering a sharp, metallic, clinking note, crossing and re-crossing each other's paths heedless of danger, until several of their number were reposing in their ornithological winding-sheets of paper in my collecting basket. The others suddenly became shy, and scattered about on the small hillocks, keeping cautiously out of range as I advanced until near the opposite side of the island, when they circled back to their former positions. As I drew near one of the bluffs a Pigeon Hawk (*Falco columbarius*) darted out almost at my feet, and was cleanly missed (fault of the gun, of course!). In a small patch of scrubby alders (*Alnus viridis*), on

the southern slope of the island, I was pleased to find some old acquaintances in the form of several Summer Warblers (*Dendroica aestiva*) and Wilson's Black-caps (*Myiodioctes pusillus*), whose bright plumage, glancing from bush to bush, recalled many pleasant days in far distant fields. Entering the bushes I encountered the angry remonstrances of a colony of Tree Sparrows (*Spizella monticola*), whose sharp *tsip, tsip, tsip*, arose on all sides. From the midst of the bushes started a Fox-colored Sparrow (*Passerella iliaca*); but just then I caught a glimpse of a beautiful specimen of Sabine's Gull (*Xema sabinei*) coasting along the rocks near my kyak, and at a break-neck pace I rushed down and embarked—in time to see it disappear in the distance. Being under way, I proceeded to the other island, a small conical rock of the same structure as the one first visited, which, being more isolated, is better populated by Sea Birds. The great angular masses of fallen rock about the water's edge were surmounted by rows of Horned Puffins sitting side by side, their white breasts gleaming in sharp contrast to the dark, rugged background. Here and there among them could be distinguished a Tufted Puffin, while on the more elevated projections and spurs on the face of the island were perched about a dozen Violet-green Cormorants (*Graculus violaceus*). The seaward face of the island, inclining gradually to the water's edge, was occupied by a large flock of *Larus kotzebuei* and a number of *L. glaucus*. As I approached all took flight, the Puffins and Gulls circling about until several were shot, when they took refuge on the open water to seaward, where they were preceded by the Cormorants, which I have invariably found very shy in this vicinity. A number of Wandering Tattlers were feeding unconcernedly along the half-submerged stones, but as I drew nearer flitted gracefully from stone to stone, choosing successively higher positions, now and then pausing to look suspiciously back, until the first gained the upper point of the ledge, when, after a moment's pause, it uttered the usual loud ringing *klā' klā' klā'*, and darted around the island followed by all the others. Taking positions along the rocks near the water, they stood like statuettes until the merciless gun broke the spell, when amid a chorus of cries a general but straggling flight to safer hunting-grounds ensued. At the same time a small party of Red-breasted Mergansers (*Mergus serrator*) arose from under the lee of the island and made directly for the lakes inland.

The wind freshening, I turned back, and, passing around the point

of the first island, started a flock of Black-headed Turnstones (*Streptilas melanocephala*) from a comfortable sun-bath they were enjoying on the side of a large rock. A snap shot added a pair of these to my bag, and then on, by the Eskimo village on the point to the landing. Placing the kyak on a staging, to prevent the Eskimo dogs from lurching upon it, I took my spoils to the house, where I was greeted by the happy twitter of a family of Swallows (*Hirundo horreorum*) the new additions to which were just receiving their first lesson in aeronautics, and, as is usually the case in the first venture of the young members from the home-nest, causing a great amount of chattering, without doubt containing much good advice.

ON CURRENT OBJECTIONABLE NAMES OF NORTH AMERICAN BIRDS.

BY ROBERT RIDGWAY.

A CLAUSE under Rules of the British Association, section 10, provides that "a name whose meaning is glaringly false may be changed." It is not so much my purpose here to protest against violations of this very proper and necessary rule, as to call attention to certain *inconsistencies* in its enforcement. A prominent example is that of the American White Pelican. This was named *Pelecanus erythrorhynchus* by Gmelin in 1788, and *P. trachyrhynchus* by Latham in 1790. The former, however, although the earliest name of the species, has been rejected by many authors, on the assumption that the bill in this bird is not red, that of Latham being substituted as more appropriate, having reference as it does to the horny excrescence on the culmen peculiar to this species. It should be borne in mind, however, that the bill of this Pelican *is* red in the breeding season,* while the horny excrescence upon which the name *trachyrhynchus* is based characterizes the bird *only* at the same season! It is therefore perfectly clear that no valid excuse exists for discarding Gmelin's original appellation.

Among the "inconsistencies" which may be noticed under this head are several of importance to students of North American

* Cf. Orn. 40th Parallel Exp., p. 634.

Ornithology. The original name bestowed upon the Red-billed Pigeon, *Columba flavirostris*, has been allowed to pass current ever since its institution, by Wagler, in 1831, the only synonym being *C. solitaria*, MacCall, doubtfully referred to this species. It being an established fact, however, that the bill of this species is *never* yellow in life, but pink or purple, with a whitish tip, the name *flavirostris* is one whose meaning is "glaringly false," and should accordingly be changed. This is only one case among many. *Chamæa fasciata* is the accepted name of a Californian bird which is notably characterized by exceedingly plain colors, devoid of distinct markings of any kind. In some individuals (perhaps more especially in the type of the species), the tail-feathers present the appearance of narrow darker bars distinctly observable only in certain lights,—these bars having given occasion for the name *fasciata*. The latter name is unquestionably inappropriate, though not, in the strictest sense, "glaringly false." This very fact, however, has a very important bearing on the question of zoölogical nomenclature, as the sequel will show. The common Song Sparrow was named *Fringilla fasciata* by Forster in 1772, the specific name being based upon precisely the same character as that which gave rise to the name in the case of *Chamæa*; yet Wilson's name, *melodia*, bestowed nearly forty years later, is allowed to supersede Forster's name. There is flagrant injustice in this case: either Gambel's name of *fasciata* for *Chamæa* should be discarded, or Forster's name, *fasciata*, for the Song Sparrow restored.

Helminthophaga pinus is the accepted name of a Warbler which, so far as known, (and it is very intimately known to the writer,) frequents chiefly, if not exclusively, deciduous woods. The name *pinus* implies pinicoline habits, and is therefore "glaringly false."

The Western Tanager was named *Tanagra ludoviciana* "when the letters 'LOUISIANA' stretched clear across the present boundary of the United States into British America."* If the name "Louisiana" Tanager is glaringly false, in a geographical sense, the Latin equivalent, *ludoviciana*, is equally so.

The common Chimney Swift is called *Chactura pelagica*. The latter term implies a pelagic habitat, and is peculiarly appropriate when applied to the Stormy Petrel, or other Sea-birds. But who ever heard of the Chimney Swift occurring at sea except when driven there by a gale?

* Cf. Coues, B. Col. Val., p. 360.

Picus borealis, Vieillot, is the accepted designation of our Red-cockaded Woodpecker. Yet, so far from being a boreal bird, it is the most southern of all the Woodpeckers occurring east of the Mississippi River. The species has not, moreover, any southern representative, so that the designation is glaringly false "in all that the name implies," and should give place to the very suitable one of *querulus*, imposed by Wilson only three years later.

One of the most characteristic birds of Florida—the Limpkin or Crying-Bird—was named, in 1828, *Rallus giganteus* by Bonaparte. If really a Rail, the name *giganteus* would be truly appropriate. But since it is not a Rail, and especially since the only other known species of the genus is decidedly larger, the term *giganteus* is, to say the least, objectionable.

Other examples among North American birds might be cited, but the above are sufficient for the present purpose.

Recent Literature.

INGERSOLL'S NESTS AND EGGS OF AMERICAN BIRDS.*—While it gives us pleasure to record the progress of this meritorious work, we regret to perceive that the parts continue to appear without dating, or any indication whatever of the time of their publication; and that textual references to the figures of the plates are still insufficiently explicit. These are grave defects in a work aspiring to a permanent place in the literature of American Ornithology—in one which will undoubtedly secure such place through the zeal and ability with which the text is prepared; and we still hope that the publisher will find it neither beneath his dignity nor incompatible with his interests to comply with the requirements of a case so obvious as this.

Otherwise we have, as on a previous occasion, nothing to say except in praise of the plan and purpose of this work, and of the fidelity with which the author continues his labors. Mr. Ingersoll has his subject well in hand now; he confines himself strictly to the announced scope of the

* Nests and Eggs of American Birds. By Ernest Ingersoll. S. E. Cassino, Naturalist's Agency, Salem, Mass. 8vo. Part II, pp. 25–48, Pl. iii, iv, pub. Aug., 1879. Part III, pp. 49–72, Pl. v, vi, pub. Oct., 1879.

treatise, and holds his subject fairly abreast of the information we have acquired respecting it. Being, furthermore, a writer of recognized ability and experience, in full possession of the data required in this case, he gives us every reasonable assurance of accomplishing a work which should constitute an interesting and important contribution to science. Trusting that he may secure, in the matter of the plates, the full support of the publisher, who has in other respects brought out the work in a style of mechanical execution exceptionally elegant, we bid him good speed. — E. C.

THE MISSES JONES AND SHULZE'S NESTS AND EGGS OF OHIO BIRDS.* — It became our sad duty to pen for the last number of the Bulletin a notice of the death of the leading author of this work, on the very threshold of the great undertaking with which her name properly continues to be associated. The hope then expressed, that, notwithstanding this most melancholy occurrence, the enterprise would not be abandoned by Miss Shulze and other co-workers, has been fulfilled in the recent appearance of Part II. A slip printed with this number briefly refers to Miss Jones's death, and announces that in future numbers Miss Shulze will be assisted in the illustrations by Mrs. Virginia E. Jones, and that the text will be prepared by Howard E. Jones, A. M., M. D. This promises well for the continuance of a work so seriously interrupted at the outset; and the number now in hand shows no falling off either in the beauty of the plates or in the appropriateness of the text. No illustrated work to compare with the present one has appeared in this country since the splendid Audubonian period closed; and it is not too much to say of the Misses Jones and Shulze's pictorial work, that it rivals in beauty and fidelity of illustration the productions of Audubon's pencil and brush, pronounced by Cuvier the greatest monument ever erected by art to nature. We would not be thought to have lost our critical faculty in mere admiration, nor seem to use words of praise without fully recognizing their weight; but it is useless to attempt the formality of mere criticism in a case where our enthusiasm is instinctive. Judged from a standpoint of the highest art culture, these colored lithographs have of course only a certain degree of excellence, determined rather by the limited possibilities of the means employed than by the ability of the artists; measured by the highest standard of similar efforts to represent nature in lithography, these illustrations compare favorably with the best that have ever appeared. Though a gentle hand has faltered but too soon, and the spirit that guided it has passed on, yet is assuredly erected to her memory the "monument more lasting than brass."

* Illustrations of the Nests and Eggs of the Birds of Ohio. With Text. By Miss Genevieve E. Jones and Eliza J. Shulze. Circleville, Ohio: Published by the Authors. (Part II, Oct., 1879.)

It would be superfluous to recall the attention of working ornithologists to a publication whose merits are so obvious and so fully recognized already. We would rather seek to interest the larger class of persons who are lovers of nature, and have the means and leisure to gratify their tastes. So highly ornate a work is necessarily expensive, and its successful completion would seem contingent upon the support it receives. Too many cheap, flashy books on natural history find a place in parlors, and even in libraries, where we should expect to find the evidences of a more cultivated taste, and where a work like the present could most desirably replace others so inferior. The position which these "Illustrations" may finally secure in the archives of science can only be told hereafter, when the work is completed; but, meanwhile, the beauty of each number is its own "excuse for being," and its own recommendation to favor.

Part II, which appeared last October, contains Plates IV, V, and VI, being illustrations of the nests and eggs of *Cyanospiza cyanea*, *Agelaius phoeniceus*, and *Tyrannus carolinensis*, with the text of these species, and also of *Quiscalus amicus*—the plate of the latter, we presume, being in preparation for the next number. Some delay in the appearance of the Part was doubtless unavoidable under the circumstances; but we shall look for further instalments to be published with regularity, and as rapidly as may be consistent with their faithful execution. — E. C.

COUES'S BIBLIOGRAPHY OF AMERICAN ORNITHOLOGY. — It gives us great pleasure to notice the appearance of a "Second Instalment" * of Dr. Coues's "Universal Bibliography of Ornithology." This part gives the titles of "Faunal Publications" relating to Central and South America, or that portion of America forming the so-called "Neotropical Region." Although containing only about 700 titles, "it is scarcely less complete," the author tells us, "and no less accurate," than the portion relating to the Faunal Publications of North America. In scope and character it is the exact counterpart of the last-named work,† and is worthy of the same high praise that has been universally accorded the first instalment of this great undertaking. The digests of the principal works and papers give everything that can be reasonably desired in such a connection, and probably very few titles calling for record here have escaped the author's attention. We miss, however, reference to Mr. Ridgway's papers,‡ recently published in the Proceedings of the United States National Museum for 1878, although those of Mr. Lawrence in the same volume are duly entered. Beginning with Maregrave, in 1648, the list of titles is brought

* Second Instalment of American Ornithological Bibliography. By Dr. Elliott Coues, U. S. A. Bull. U. S. Geol. and Geograph. Survey of the Territories. Vol. V, pp. 229-330. Sept. 6, 1879.

† See this Bulletin, Vol. IV, pp. 56, 57.

‡ For a notice of these, see below, pp. 41, 42.

down to include most of those which appeared in the first half of the year 1879. We are pleased to learn that a third instalment of the Bibliography, giving the "Systematic Publications" relating to the ornithology of all America, is in press, and may be shortly expected. Of the laborious research and care displayed in the preparation of this work, too great praise can scarcely be accorded.

Dr. Cones has also recently published a partial bibliography of what is commonly termed the "Sparrow-War in America,"* in which are given the titles of most of the papers relating to this troublesome question, usually with a short digest of the papers mentioned. It is confessedly "very incomplete," being "a portion of a more elaborate article," which the author is preparing on this subject. — J. A. A.

RIDGWAY ON THE SPECIES OF THE GENERA *SCOPS* AND *TYRANNUS*, ETC. — The Proceedings of the United States National Museum, for 1878, recently issued, contain several papers by Mr. Ridgway on American Birds, in addition to those noticed in previous numbers of the Bulletin. These include a new species of Humming-bird, † of the genus *Atthis*, from Guatemala, allied to *A. heloiseæ*, and hitherto confounded with it; a revision of the American species of the genus *Scops*: ‡ new species and geographical races of birds in the National Museum; § and a synopsis of the genus *Tyrannus*. || Mr. Ridgway recognizes seven American species of the genus *Scops*, two of them running into a number of geographical races or subspecies. These are, — 1. *Scops nudipes*: 2. *S. brasiliensis*, with varieties *α. brasiliensis*, *β. atricapillus*, *γ. ustus*, *δ. guatemalæ*, *ε. cassini*, the last new; 3. *S. barbarus*: 4. *S. glaucocollis*: 5. *S. asio*, with varieties *α. asio*, *β. macrallii*, *γ. kennicotti*, *δ. floridensis*, *ε. maxwellii*: 6. *S. trichopsis*: 7. *S. cooperi*, Ridgw. sp. nov. Each is described in detail, with full synonymy and comparative diagnoses. In the second above-cited paper, a new variety of *Rhodinocichla rosea* (*β. schistacea*, Ridgw.) is described from Western Mexico; two new varieties of *Embernagra ruficirrata* (*β. crassi-*

* On the Present Status of *Passer domesticus* in America, with Special Reference to the Western States and Territories. *Ibid.*, pp. 175–193. Sept. 6, 1870.

† On a new Humming-bird (*Atthis ellioti*) from Guatemala. By Robert Ridgway. Proc. U. S. National Museum, 1878, pp. 8–10.

‡ A Review of the American Species of the Genus *Scops*, Savigny. *Ibid.*, pp. 85–117.

§ Description of Several New Species and Geographical Races of Birds Contained in the Collection of the United States National Museum. *Ibid.*, pp. 247–252.

|| Descriptions of Two New Species of Birds from Costa Rica, and Notes on other Rare Species from that Country. *Ibid.*, pp. 252–255.

|| Descriptions of New Species and Races of American Birds, including a Synopsis of the Genus *Tyrannus*, Cuvier. *Ibid.*, pp. 466–486.

rostris, Baird MSS.), from Southern Mexico, and *γ. verticalis*, Ridgw., from Merida, Yucatan; and a new variety of *Loxigilla violacea* (*β. bahamensis*, Ridgw.), from the Bahamas. *Anas aberti* is described as a new species from Mazatlan, Mexico, and a description is given of the female of the recently-discovered *A. wyvilliana*, of which only the male was previously known. The two new species from Costa Rica, described in the third paper above cited, are *Thryophilus zeledoni*, Lawr. MSS., and *Pseudocolaptes laurercii*, Ridgw.

Of the genus *Tyrannus* Mr. Ridgway recognizes thirteen species,* only one of which, the wide-ranging and variable *T. melancholicus*, is subdivided into races, of which three are recognized, namely, *α. melancholicus*, *β. couchi*, *γ. satrapa*. One species, *T. luggeri*, is described as new. In the second part of the same paper are described a new variety of *Lichenops perspicillatus* (*β. andinus*, Ridgw.) from Chili; a new variety of *Dacnis pulcherrima* (*β. auricinnucha*, Ridgw.) from Ecuador, and a new variety of *Parus rufescens* (*β. neglectus*, Ridgw.) from the coast of California, which differs from typical *rufescens* in having the sides grayish, or only slightly tinged with rusty.

These papers all notably evince Mr. Ridgway's well-known acuteness of discrimination, and critical care in description and diagnosis, the distinctive features of the several forms being clearly and concisely designated. Full synonymy is also given in each case. — J. A. A.

MCCHESENEY'S NOTES ON THE BIRDS OF FORT SISSETON, DAKOTA TERRITORY. — Dr. McChesney's "Notes on the Birds of Fort Sisseton" † form a valuable contribution to the ornithology of a little known portion of the Northwest, namely, the elevated plateau in Dakota known as the "Coteau des Prairies." This plateau, with an elevation of some four hundred feet above the level of the surrounding country, has a length of over one hundred miles, with a variable width of twenty to fifty. The many lakes that diversify its surface form the haunts of "thousands of Waders and Wild-fowl," and it differs in its fauna in other respects from the surrounding lower country. The "Notes" are based on an experience of three years in the neighborhood of Fort Sisseton, and record 157 species, respecting most of which there are copious and interesting annotations. The list, as would be expected, embraces nearly all of the prairie birds of the Great Plains, but the locality is near the eastern limit of the range of

* 1. *Tyrannus nigricestris*, 2. *T. rostratus*, 3. *T. dominicensis*, 4. *T. carolinensis*, 5. *T. crassirostris*, 6. *T. melancholicus*, 7. *T. albicularis*, 8. *T. apolites*, 9. *T. nigrularis*, 10. *T. verticalis*, 11. *T. vociferans*, 12. *T. luggeri* (sp. nov.), 13. *T. aurantiacristatus*.

† Notes on the Birds of Fort Sisseton, Dakota Territory. By Chas. E. McChesney, Acting Assistant Surgeon, U. S. A. Bulletin U. S. Geol. and Geograph. Survey of the Territories, Vol. V, pp. 71-104. Feb. 28, 1879.

several of them. Respecting the abundance of the Painted Lark Bunting (*Plectrophanes pictus*) we quote as follows: "It passes south in October, in company with *P. ornatus*, and when thus migrating I have seen immense flocks of this bird. I have sat for two hours at a time on a duck-pass, some twelve miles south of the post, and had an almost constant flight of these birds go over me. I estimated that a thousand birds passed me every minute, and their flight appeared in no wise lessening when I departed" (*l. c.*, p. 76). Descriptions of the Game-birds occurring in Dakota and Montana have been incorporated with the list, in accordance, as the author tells us, "with the wish of many officers of the army stationed in the Territories," for their assistance in determining the species met with. These descriptions have been taken, with modifications, from Dr. Coues's "Key to North American Birds." Dr. McChesney's report was transmitted to Dr. Coues for publication, and appears to have had the benefit of his revision. With Messrs. Roberts and Benner's "Contribution to the Ornithology of Minnesota," printed in this number of the Bulletin, and relating to the region lying a little to the eastward of Fort Sisseton, we have now a pretty fair exposition of the ornithology of the great "Coteau des Prairies" region of Dakota and Minnesota. — J. A. A.

MINOR ORNITHOLOGICAL PAPERS.— Under this heading we propose to give short notices or abstracts of the more important ornithological papers and notes relating to American birds that appear in publications not usually of convenient access to those to whom they are of really greatest interest, namely, the working ornithologists. While no attempt will be made to notice everything bearing upon the subject of ornithology, it will be our aim to record all papers or notes of special value, and especially all papers having the character of local lists, or bearing upon the migration and distribution of species. Reference to notes upon the habits or occurrence of single species, even if comparatively rare, will, from lack of space, necessarily be excluded, unless they contain points of particular interest. Furthermore, no notice will be taken of anonymous or pseudonymous articles. The record will begin with the close of that given by Dr. Coues in his "List of Faunal Publications relating to North American Ornithology," published in Part First of his "Birds of the Colorado Valley," or about July 1, 1878.

Journals devoted to field and aquatic sports, to "practical" natural history, and the preservation of game, are frequently chosen by excellent field naturalists as their mediums of publication, and in this respect none is more prominent than that deservedly popular newspaper, "Forest and Stream," which, in tone and literary standing, is a model of its class. Beginning with Volume XI of this publication, we note (in Vols. XI, XII, and XIII) the following:—

1. *List of Birds in Peotone [Illinois] and Vicinity.* By D. H. Eaton. Forest and Stream. Vol. XI, p. 46, Aug. 22, 1878. — Contains notes on the relative abundance and breeding of 65 species.

2. *Breeding Snow Birds.* By Geo. H. Morgan, M. D. *Ibid.*, XI, p. 22, Oct. 17, 1878. — Note on the breeding of *Junco hyemalis* in the mountains of North Carolina.

3. *About the Birds of Central New York.* By J. P. Hutchins. *Ibid.*, XII, p. 25, Feb. 13, 1879. — Contains various notes of interest respecting birds observed about Oneida Lake, among them the following: "After one of the lake's turnmoils, my friend, C. A. Burt, and myself, gathered up more than a milk-pail full of small birds in good state of preservation, which had been drowned in the lake, and washed ashore along the land for a mile and a half. There were also many others which were either buried in the sand or partially devoured by other birds and animals." Eight species are enumerated as among those found. As the lake is only twenty miles long and five or six wide, this seems a remarkable case, although it is evident from many well-known facts that great destruction of bird-life often occurs from similar causes.

4. *List of the Birds of Nova Scotia. — Land Birds.* By J. Matthew Jones. *Ibid.*, XII, pp. 65, 66, Feb. 27, 1879; pp. 105, 106, March 13, 1879; p. 205, Apr. 17, 1879; p. 245, May 1, 1879. — An annotated list of 128 species. Gives *Ammodramus maritimus* as "very common," arriving "about the end of March." *Sitta pusilla* and *Quiscalus major* are given on the authority of Colonel Bland, R. A. (see *l. c.*, p. 205), and *Turdus mustelinus* is included on that of Mr. Winton, "a close observer of birds" (see *l. c.*, p. 205). *Empidonax acadicus* is given as "very rare," while *E. flavicentris* and *E. trailli* are omitted. *Sinus ludovicianus* (= *S. motacilla*) is admittedly given by mistake. While several of these "finds" obviously require confirmation, and a number of species that should be included are omitted, the list records many facts of interest and value.

5. *Notes on Arrival, Presence, and Departure of (mostly) Water-Birds at and near Clark's Island, Plymouth, Mass., from May 1 to Dec.* 26, 1852. By F. C. Browne. *Ibid.*, XII, p. 185, April 10, 1879; pp. 385, 386, June 19, 1879. — Notes on the arrival and departure, etc., of about 50 species, chiefly Waders and Swimmers. Among the note-worthy species are *Sterna nigra* (= *Hydrochelidon breviformis*) and *Micropoduma himantopus*.

6. *Notes on some Birds of Chatham, N. J.* By Harrold Herrick. *Ibid.*, XII, p. 165, April 3, 1879. — Notes on the occurrence or breeding of about 26 species, mostly rare or otherwise of special interest for the locality.

7. *Nesting of the Great Northern and Loggerhead Shrikes in Maine.* By H. A. Purdie, based on information furnished by E. S. Bowler. *Ibid.*, XII, p. 166, April 3, 1878. — As stated later (p. 265, May 8, 1878), the note really refers exclusively to the Loggerhead.

8. *The Birds of New York.* By C. Hart Merriam, M. D. *Ibid.*, XII, p. 285, May 15, 1879. — An outline of a proposed work on the Ornithology of the State of New York.

9. *Nebraska Birds.* By D. S. Libbey, with editorial comments. *Ibid.*,

XII, p. 285. — Capture of "*Ibis falcinellus* var. *ordi*" (= *Plegadis falcinellus*) and "*Nyctiardea grisea* var. *navia*." The communication is dated "*Silver Peak, Nevada*," to which locality the note would appear to relate, considered aside from its title.

10. *A List of Birds taken in Southern Wyoming*. By S. W. Williston. With supplementary notes by the Natural History editor [George B. Grinnell]. *Ibid.*, XII, pp. 306, 307, May 22, 1879; pp. 325, 326, May 29, 1879; p. 365, June 12, 1879; p. 385, June 19, 1879. — An annotated list of 109 species, under joint authorship, as above (Mr. Grinnell's additions being distinguished by brackets), based mainly on observations made in the vicinity of Como, between April 20 and July 1, 1878. The paper includes a letter by R. Ridgway (*l. c.*, p. 307) on an interesting variety of *Siurus naevius*, in which Mr. R. says: "The specimen in question evidently bears to *S. naevius* exactly the same relation that *Geothlypis rostratus* does to *G. trichas*; and if I were called upon to fix the habitat of the specimen, I should, judging merely from analogy in the foregoing and other cases, say it was from some island off the coast."

11. *Migration of some Warblers through Summit, N. J., during the last Spring* [1879]. By George Lawrence Nichols. *Ibid.*, XII, p. 464, July 17, 1879. — Notes on 18 species of the family *Mniotiltidae*.

12. *Grand Menan Notes. Summers of 1877 and 1878*. By R. F. Pearsall. *Ibid.*, XIII, p. 524, Aug. 7, 1879. — Notes on 43 species, recording many facts of much interest.

13. *Habitat of Sharp-tailed Grouse*. By S. C. C. *Ibid.*, XIII, p. 705, Oct. 9, 1879. "In 1840-45 this species was abundant in Southern Wisconsin and Northern Illinois as far south as Chicago (lat. 42°), always frequenting the timber, which gave it the local name of Burr-Oak Grouse." An interesting confirmation of its former extension to Northern Illinois. Compare *Coues*, *Birds of the Northwest*, pp. 409-411; *Nelson*, *Bull. Essex Inst.*, VIII, p. 121.

14. *Capture of a Swan in Rhode Island*. By Newton Dexter. *Ibid.*, XIII, p. 848, Nov. 27, 1879. — A *Cygnus americanus* taken, and another wounded, at Quonocontaug Pond, southern coast of Rhode Island, Nov. 9, 1879.

In "Science News" — a fortnightly journal, which, it is greatly to be regretted, closed its existence with the issue of the twenty-fourth number — have appeared several original ornithological articles of much value, besides numerous lesser notes of interest, of which we may here note the following: —

15. *The Rearing of Wild Birds in Confinement*. By M. C. Read. *Science News*, pp. 29, 30, Nov. 15, 1878. — Pleasantly written notes on the food and traits in confinement of several of our native birds.

16. *Later Notes on Texan Birds*. By George B. Sennett. — A series of five short papers on the rarer species observed by Mr. Sennett in South-western Texas, in 1878, appearing as follows: *Ibid.*, pp. 57-59, Dec. 15

1878; pp. 106, 107, Feb. 1, 1879; pp. 120, 121, Feb. 15, 1879; pp. 132-134, March 1, 1879; pp. 151-153, March 15, 1879. Quite extended and important biographical notes on 27 species, relating especially to their breeding habits and nests and eggs. Among the species treated are the following: "Black-crested Titmouse (*Loph. cristatus*,"—lege *atrocristatus*), *Auriparus flavifrons*, *Parula nigrilora*, *Embernagra ruficirrata*, *Icterus melanocephalus auduboni*, *Centurus aurifrons*, *Buteo unicinctus harrissi*, *Buteo albicaudatus*, etc.

17. *How to collect Birds' Nests and Eggs*. By Ernest Ingersoll. *Ibid.*, pp. 166-169, pp. 179, 180, pp. 205, 206, pp. 222, 223, pp. 251, 252, pp. 268, 269, pp. 284, 285, pp. 297-299, pp. 315, 316. — An elaborate and valuable series of papers on the collection and preservation of nests and eggs of birds.

18. *A Substitute for the English Sparrow*. By Chas. C. Abbott, M. D. *Ibid.*, pp. 255, 256. — Urges the protection and encouragement of our native birds, with observations on their fecundity and food.

In the department of "Notes and Queries" are several short notes of interest, mainly on Texan and Californian birds, principally by George H. Ragsdale and Walter E. Bryant. — J. A. A.

General Notes.

A BLACK ROBIN (*Turdus migratorius*). — I have been greatly interested in a case of melanism, — a black Robin. The color is very decided, and covers the entire bird, with a very trifling exception. The lower mandible is yellow, but its upper one is black. I noted three specks on the breast, of the normal mahogany-red; but all put into one would not make an area of more than a quarter of an inch. The bird is lively, thrives in confinement, is a male, and was taken from a nest in Freehold, New Jersey, this last summer. There was but one other bird in the nest, also a male, which was normally colored. — SAMUEL LOCKWOOD, *Freehold, N. J.* [For another case of this affection of the same bird, see this Bulletin, Vol. III, p. 47; *Forest and Stream*, Vol. XIII, Aug. 7, 1879, p. 525. — E. C.]

INTERESTING BIRDS FOUND ON LONG ISLAND, N. Y. — **Mimus polyglottus**. — I shot a young Mocking-bird at Gravesend, L. I., on August 9, 1879, in such immature plumage as to render it probable that it had been bred in the neighborhood. I am not sure that this bird can be considered rare on Long Island though it is at least uncommon.

Contopus borealis. — In September, 1877, I shot an Olive-sided Flycatcher in my yard at Fort Hamilton. It is the only record of this species for Long Island.

Colaptes auratus. — On October 4, 1879, I took, at Fort Hamilton, a remarkable Golden-winged Woodpecker. It strongly evinces its affinity to *C. mexicanus*. Its black mustaches are sprinkled with red feathers. These are most plentiful along the upper edge, and at the lower end of the black cheek patch. The back is more strongly tinged with olive, is of a darker shade, and the black bars are much narrower than in ordinary individuals of *C. auratus*. The bird was a male. — DE L. BERIER, *Fort Hamilton, Long Island, N. Y.*

THE BLUE-GRAY GNATCATCHER IN MASSACHUSETTS. — MR. C. J. MAYNARD informs me of a fourth specimen for Massachusetts of the Gnatcatcher (*Poliophtila cærulea*), which was taken at Magnolia, Mass., August 27, 1879, by Mr. Outram Bangs. The bird was a young female, and was probably blown north of its usual range by a severe gale, which occurred a few days previous to its capture. — RUTHVEN DEANE, *Cambridge, Mass.*

NEST AND EGGS OF PARUS MONTANUS. — Although not entirely unknown, the eggs of this species have been so rarely met with and identified that a brief mention of a fine set that has recently come into my possession may not be without interest. This set was taken by Mr. Charles A. Allen in the mountains of Placer County, California, June 11, 1879. The nest had been constructed in an old hole of a *Picus albolarvatus* in a decaying pine stump. The opening was about seven feet from the ground, extended four inches horizontally, and was over twelve inches in depth. The female could not be induced to leave the nest, even after the whole side of the stump had been cut away with an axe. She had finally to be taken from her eggs by the hand, and tossed into the air, before they could be uncovered. After they had been taken, both the male and the female returned to the hole, and insisted upon remaining there even after the last vestige of the nest had been removed.

The eggs are seven in number, and range in measurement from .64 of an inch by .50, to .63 by .49. They are of a rounded oval shape, much more pointed at one end, and six of the seven are of a pure unspotted chalky white. They are untinged with any shade of green, and bear no similitude to a recent illustration purporting to be this egg. The seventh egg is slightly more elongated than any of the others, measuring .49 \times .64, is of a pure chalky whiteness, but is marked over its entire surface with fine rounded dots of reddish-brown. The contrast between this spotted egg and its immaculate companions is quite striking.

The nest is a warm impacted mattress made of felted masses of the fur of small quadrupeds intermingled with a few hairs. It is four inches in diameter, the wall about an inch and a half in thickness, and the cavity nearly two inches deep. When found the eggs had been slightly incubated. — T. M. BREWER, *Boston, Mass.*

NESTING OF THE BLUE YELLOW-BACKED WARBLER IN SOUTHERN GEORGIA. — In reading Mr. Loomis's interesting paper in the last Bulletin upon the Birds of Chester Connty, South Carolina, I noticed that he emphasizes the occurrence in summer of the Blue Yellow-backed Warbler (*Parula americana*). I find in some notes made at St. Mary's, Camden Co., Ga., a record of a nest of this species, which was found in April, 1877. The female was shot just as she was entering her nest, which until then had been unnoticed in the hanging tillandsia moss. The nest was finished, but no eggs were laid. — W. BREWSTER, *Cambridge, Mass.*

THE TENNESSEE WARBLER DESTRUCTIVE TO GRAPES. — MR. N. S. Goss, of Neosho Falls, Kansas, writes me substantially as follows respecting an interesting and hitherto unrecorded trait of the Tennessee Warbler (*Helminthophaga peregrina*): "While visiting my brother, Capt. B. F. Goss, at his home in Pewaukee, Wis., the 13th of September last, he handed me for identification the embalmed bird herewith enclosed, remarking that the birds were very destructive to his grapes, puncturing them with their bills, and eating the pulp, or succulent part of the grapes. I at once pronounced the bird to be a young Tennessee Warbler. . . . On visiting his grounds we found, I should think, about twenty birds scattered singly here and there among the vines. They were very wild and kept continually in motion, uttering now and then a sharp, but not loud *chip*, as they darted from the grapes into the raspberry-bushes, and when followed they flew to a young grove of timber near by. I succeeded, however, in killing four. I enclose also one of these for your examination."

"These birds," he further adds, "are likely to prove destructive to the grapes in that latitude (43° and further north), but I think that in their southward migration they do not reach us (latitude 38°) until the grape season is over. I at first thought the grapes thus punctured contained the eggs or larvæ of some insect; but examination proved, on the contrary, that only the largest and healthiest-looking grapes were attacked." — J. A. ALLEN, *Cambridge, Mass.*

BLUE-WINGED YELLOW WARBLER IN NEW ENGLAND. — Our knowledge of the nests and eggs of *Helminthophaga pinus* is limited to a very few examples, and although its presence in New England has been several times noted, and it has been affirmed to breed (see Am. Nat., VII, 629; this Bull., I, 73; *Ibid.*, II, 16; Merriam's Rev. Bds. Conn., p. 14), no mention has been made, that I am aware, of its nest and eggs having been actually taken.* The presence of here and there an individual in the breeding season has rendered it a probable occurrence, and the present season has made this a certainty. My friend, Mr. Harry Merrill, of Ban-

* Since this paragraph was in type, I learn that several nests have been taken by Mr. Clark, of Saybrook, Conn., and that one of its nests is in the possession of Mr. Purdie, though no description of any has been published.

gor, Me., writes me that Mr. N. A. Eddy of that city met with its nest and eggs near New Haven in June last. The following data are supplied by Mr. Eddy himself:—The nest was found June 14, and at that time contained one egg. It was revisited June 20, when it contained four eggs, which were taken with the nest and the female parent was shot. The nest was situated in an old orchard, about half a mile from the coast of Long Island Sound. It was placed on the ground, in the grass, at the foot of a small bush. The nest is of a very loose structure, and is composed of oak leaves, built so as to form an inverted cone; within is a coarse lining of grape-vine bark, and this is again lined with fine grass and very fine pieces of grape-vine. The eggs are white, with small red spots forming a ring around the greater end. A few spots are also scattered over the whole surface. Before they were blown the eggs were of a flesh-colored tint. Their measurements are as follows: .65 × .50, .67 × .49, .63 × .48, .60 × .47. — T. M. BREWER, *Boston, Mass.*

DESCRIPTION OF THE FEMALE *DENDRÆCA KIRTLANDI*. — Mr. Adolphe B. Covert, of Ann Arbor, Mich., has generously given me the female specimen which he shot in that locality, May 16, 1879; and a description of this little-known state of a very rare species may be here recorded.

Upper parts dull bluish-gray, overcast with brownish on the cervex and interseapulum, and marked with broad heavy blackish streaks on the whole back; the crown and upper tail-coverts with fine shaft-lines of the same. The color of the upper parts extending over the entire side of the head and neck, which are unmarked, excepting a slight whitish eye-ring and darkened lore. Wing-quills dusky, with very narrow dull whitish edging of both webs; wing-coverts like the back, but with large blackish central field, and whitish edging and tipping, — the latter forming two inconspicuous wing-bars. Tail-feathers like wing-quills, only the outermost one having the white area, so characteristic of *Dendræca*, and this being much restricted in extent. Entire under parts dull yellow, a little brighter on the breast, and paler on the throat and belly, obscured with brown on the sides under the wings, marked with a slight "necklace" of black dots across the jugulum (as in *Myiodiectes canadensis* for example); these spots stronger on the sides of the breast, whence lengthening into streaks along the sides and flanks; a few small sharp scratches of the same nearly across the lower part of the breast. Under tail-coverts white, unmarked. Bill and feet black. Length (of skin), 5.30; wing, 2.60; tail, 2.30; culmen of bill, about 0.40; tarsus, 0.80.

It makes a rather dingy-looking bird of no striking appearance in any respect, liable to be passed over if carelessly handled, but on inquiry not to be confounded with any other species. The male is brighter bluish above, brighter yellow below, with a little more white on the tail, and perfectly black lores, but the style of coloration is similar. This comparison is made with the type of the species now in the National Museum

where I have also deposited the female. The latter is the specimen mentioned by Purdie (this Bull., Vol. IV, p. 184) as being probably the ninth known. Compare Cory's description of a female (this Bull., Vol. IV, p. 118). — ELLIOTT COUES, *Washington, D. C.*

NOTE ON *OPORORNIS AGILIS*. — I first met with this species in the fall of 1879, while collecting in company with Samuel N. Rhoads, about six miles north of Philadelphia. We procured three specimens, one female and two young males. The following fall about six specimens were taken in the same locality as those of the previous season. They appeared to inhabit moist thickets, running about on the ground like the *Siuri*. The present fall (1879) we have noticed a great departure from the foregoing. No less than seventeen specimens were seen (a number of which were taken), and these, instead of being found in thickets, were observed to frequent stubble-fields, principally wheat-stubble, though generally in close proximity to a thicket to which they would repair on being disturbed. Yet several were seen at a considerable distance from any shrubbery. They were exceedingly fat, so fat indeed that they were scarcely able to fly. Mr. Rhoads informs me that they have been quite numerous in Delaware County this fall, where they also seem to prefer the stubble to the thicket. We have yet to meet with them in the spring migrations. — WILLIAM L. COLLINS, *Frankfort, Penn.*

THE REDSTART IN WASHINGTON TERRITORY. — In a recent letter Captain Bendire mentions having procured an example of the common Redstart (*Setophaga ruticilla*) near Fort Walla Walla. It was an adult male, and was shot August 24, 1879. Although previously recorded as common in Utah by Messrs. Allen and Ridgway, it appears not to have been before noted from a point so far to the northwest. — T. M. BREWER, *Boston, Mass.*

ADDITIONAL RECORD OF THE LOGGERHEAD SHRIKE IN MAINE. — My correspondent Mr. H. R. True has loaned me a fine specimen of *Lanius ludovicianus* (strongly approaching the *excubitorides* type), which was taken at Abbott, 25th May, 1878. The nest of this specimen was also found built in an apple-tree, and contained four eggs. — RUTHVEN DEANE, *Cambridge, Mass.*

THE NESTING OF THE COMMON CROSSBILL. — A few days since, looking over my files of old ornithological correspondence, I found a letter written April 21, 1851, containing some notes on the nesting of the *Loxia americana* that seem to me too valuable to be lost. The writer is Mr. Charles S. Paine, the veteran ornithologist of Randolph, Vt. The nest spoken of is the one referred to in "History of North American Birds," Vol. I, p. 487, where it will be seen the mistake occurs of making the

month in which this nest was built March instead of April. As so little is known on this subject even now, twenty-eight years and more since the date of this letter, it seems certainly of sufficient value to be placed on record. Mr. Paine's notes are as follows:—

“Since I last wrote you I have seen some interesting sights among the feathered tribes. The Crossbills have been the centres of attraction with me. A few days after I received your letter of March 15, I saw a pair of these birds alight upon a tree by my brother's door, the female upon an old Yellow-bird's (*C. tristis*) nest, plucking the lining therefrom, and, together with her mate, flying off in the direction of the woods. I therefore concluded that they must be building a nest. Soon after I shot a pair, the female of which had eggs half grown. And now, only four days ago, I was in the woods heading in some trees to transplant, when I heard the sharp notes of the Crossbills. They approached to where I was, and the female alighted on the ground, not more than a rod from me, and began pulling on some fibrous roots where I had taken up a tree. I watched her as she flew and saw her alight upon a tall elm, only a few rods from me, and there she deposited her building materials, in the crotch of a limb near the body of the tree. I saw her busy collecting stuff for her nest for some time, all of which she carried to the same spot. I returned to the place the next day and found them still at their labors. The third day I found the female engaged in carrying strips of birch-bark to her nest, and I could see that the structure was about completed, and in the course of the week, if nothing disturbs them, I shall have their eggs. The male did not join in the work, but usually accompanied his mate in her excursions, but would sometimes remain on the elm and chant forth a few notes. The books all say that these birds always build in evergreen trees, but it seems that they do not always do so. I never in all my life saw birds that seemed so much attached to one another. The pair I shot a few days ago were about my barn. When I shot one, the other remained, and would not leave its mate. I shot at her without effect and she flew away, but, finding her mate did not follow, she returned to the spot, and I shot her and have skinned and stuffed this loving pair, and will send them to you in a few days.”—T. M. BREWER, *Boston, Mass.*

COTURNICULUS LECONTEI. — In a “List of Birds observed at Coosada, Central Alabama,” by Mr. N. C. Brown, (Bull. Nutt. Orn. Club, Vol. IV, No. 1, p. 8, January, 1879,) the capture of *Coturniculus lecontei* at the above-named locality is recorded, with the remark that it (*C. lecontei*), “if I am not mistaken, has never before been detected east of the Mississippi River.” If Mr. Brown will refer to my paper upon the “Birds of Northeastern Illinois” (Bull. Essex Inst., Vol. VIII, April, 1877, p. 106), he will see that I there record the capture of this species east of the Mississippi upon the strength of a specimen taken at Riverdale, Ill., May 13, 1875. — E. W. NELSON, *St. Michael's, Alaska.*

AMMODROMUS CAUDACUTUS A SUMMER RESIDENT IN SOUTHERN MAINE. — Although it rather reflects upon my previous thoroughness as a field observer,* I suppose the ornithological public ought to be informed that *Ammodromus caudacutus* remains to breed in the Scarborough marshes, after all. I say to *breed*, and the presence there of some half-dozen pairs during the past summer (1879), will probably be accepted as good evidence of nidification, though I have not actually seen any nests. The bird is so shy and lurking in habit that a few scattered pairs would hardly be detected amongst the rank grass and weeds of the marshes, during summer, were the faint song of the male not heard; and I am forced to believe, in spite of my previous negative evidence to the contrary, that the species ought to be included among the regular summer residents of this locality. — NATHAN CLIFFORD BROWN, *Portland, Maine*.

NOTE ON *PEUCEEA ILLINOENSIS*. — The want of requisite material to determine the exact relationship between this new form and *P. astivalis*, which induced me to accord provisionally specific rank to *P. illinoensis* in my article on the latter in the October number of this Bulletin, has fortunately been supplied through the kindness of Mr. N. C. Brown of Portland, Me., who has courteously sent me two examples of *P. astivalis* collected by himself at Coosada, Central Alabama, in the spring of 1878. These examples being exactly intermediate between the true *P. astivalis* (from the Atlantic Coast district of Georgia and Florida), and the Illinois and Texan specimens characterized as *P. illinoensis*, it becomes necessary to degrade the latter from the rank of a species, which had been provisionally accorded it. The Western bird should therefore stand as *P. astivalis illinoensis*.

Basing an opinion solely upon the two specimens kindly submitted to me by Mr. Brown, it would be impossible to say to which form the Alabama birds most nearly approximate. I have no hesitation in saying, however, that those seen by me bear a decidedly closer resemblance to the types of *illinoensis* than to *some* specimens of true *astivalis* which I have seen. — R. RIDGWAY, *Washington, D. C.*

ZONOTRICHIA ALBICOLLIS NESTING IN EASTERN MASSACHUSETTS. — I have lately seen a set of eggs of the White-throated Sparrow obtained in this vicinity, and interviewed the collector, Mr. E. Haeuber of this place. The locality was the southeast part of Framingham, near the Natick line. The location was a tussock in a rather wet meadow, adjoining a wooded swamp fringed with alders. The eggs, four in number, were taken early in June, 1874, and were somewhat advanced in incubation. Unfortunately neither nest nor bird was secured, Mr. H. not being then aware of the value of his find; but he says the identification is beyond all doubt, as he flushed the parent bird from the nest, and she, alighting frequently within a few feet, gave him every advantage in observing her. — F. C. BROWNE, *Framingham, Mass.*

* See note on this species, in this Bulletin, Vol. III, pp. 98, 99.

CHONDESTES GRAMMICA AND VIREO PHILADELPHICUS IN MASSACHUSETTS. — A Lark Finch (*Chondestes grammica*) was shot at Magnolia, Mass., August 27, 1879, by W. S. Townsend. This is the third instance of its capture in Massachusetts.

On September 18, 1879, I shot, at Magnolia, Mass., a Brotherly-love Vireo (*Vireo philadelphicus*). This is the second instance of its capture in Massachusetts. — C. W. TOWNSEND.

LATE BREEDING OF THE BLUE GROSBEAK. — On the 13th of September, 1879, I shot, near the village of Falls Church, Fairfax Co., Va. (about eight miles west of Washington), two young Blue Grosbeaks, which were able to fly only a short distance, and evidently had been out of the nest but a day or two. Full-grown young of the year in the fresh autumnal dress were shot at the same place and time, so that it is most likely the very young birds secured were a second brood. The species was rather common among the tall weeds and bushes bordering the lower course of a ditch draining a farm. — ROBERT RIDGWAY, *Washington, D. C.*

THE WESTERN MEADOW LARK IN NORTHEASTERN IOWA. — On May 25 (1879), when seven miles west of Fredericksburg, Chickasaw Co., Iowa, I was astonished to hear the note of *Sturnella neglecta*, Aud., and I soon after saw the bird resting on a fence. An *S. magna* was answering its call. The locality is one hundred miles or more farther east than any in which I had previously seen the species. The note was quite characteristic (I have often seen *S. neglecta* in Middle and Western Nebraska), and other characters seemed to be also, so far as could be determined from a near view. The specimen was not captured.

During the next three or four days I saw perhaps a dozen individuals of *S. neglecta* in Floyd and Mitchell Counties, Iowa, and Mower Co., Minnesota, some of which exhibited all characteristic features much more clearly than others; and I saw several individuals (notably one near Rudd, Floyd Co.), which I was totally unable to satisfactorily identify with either *S. magna* or *S. neglecta*, either by markings, habits, attitude, or voice. They seemed to hold an intermediate position, in all characters, between the best marked extremes. — W. J. MCGEE, *Farley, Iowa.*

EASTWARD RANGE OF THE WESTERN MEADOW LARK. — In 1867 I found var. *neglecta* the prevailing form in Central and Western Iowa, from Boone County, westward. I also noticed that in Northern Illinois the Meadow Larks already differed in song quite markedly from their relatives in the Eastern States, the departure being in the direction of that of var. *neglecta* (see Mem. Bost. Soc. Nat. Hist., I, pt. 4, 1868, pp. 496, 497). Mr. E. W. Nelson has since recorded "*Sturnella magna* var. *neglecta*" as "a regular but rather rare summer resident upon prairies" in Northeastern

Illinois. He speaks of it as more common during its migrations, and records the capture of a fine specimen near Chicago, in May, 1876. He believes it to be a common summer resident upon the prairies of the western part of the State (Bull. Essex Inst., VIII, p. 111). Dr. H. A. Atkins has reported the occurrence of quite large flocks of *neglecta* at Loeke, Ingham Co., Mich., during October, 1878 (see this Bulletin, IV, p. 123). In all probability, var. *neglecta* mixed with var. *magna* will be found to occur with more or less frequency to the extreme eastern limit of the prairie districts, but with its distinctive characteristics rather less strongly pronounced than on the arid plains further westward. — J. A. ALLEN, Cambridge, Mass.

CHORDILES POPETUE MINOR IN FLORIDA. — Just after sunset on May 1, 1879, as we were rowing down the Homosassa River, in Florida, about six miles above its entrance to the Gulf of Mexico, our attention was attracted by probably a thousand "Night-Hawks," sailing and twisting in their usual manner in pursuit of insects, at a height of from fifty to a hundred and fifty feet above the water. This continued until very late in the evening. We observed the same the next evening and procured a few specimens. They seemed small; but we thought them all to be *Chordiles popetue* until, upon dissection, finding some females to have white throats and one a pale rufous throat, we were puzzled, and sent one to Mr. G. N. Lawrence, of New York. Mr. Lawrence says that, on comparison with his specimen of *Chordiles* from Cuba, he found it to be identical with *Chordiles minor* of Calanis. He also informs me that this species was obtained in Florida by Mr. Maynard. The note of these birds is scarcely different from that of *C. popetue*, except that it is perhaps a little feebler. — GREENE SMITH, Peterboro', Madison Co., N. Y.

[In Baird, Brewer, and Ridgway's "History of North American Birds" (Vol. V, Appendix, p. 520) occurs the following reference to Mr. Maynard's specimens: —

"*Chordiles popetue* var. *minor*. Specimens from Miami, Florida, collected by Mr. Maynard, agree very nearly with typical examples of var. *minor* from Cuba, both in size and color, and possibly should be referred to that race. A male (7414, Mus. C. J. M.) measures: wing, 7.00; tail, 4.15. The colors are those of var. *popetue*, with less rufous than in the single specimen of *minor* with which it has been compared."

Mr. Lawrence, in referring to Mr. Smith's specimen in a letter to the writer, says, "I found it to agree precisely with a female in my collection sent me by Dr. Gundlach, from Cuba," and adds, that, as "this appeared to be a more positive case" than those mentioned as taken by Mr. Maynard in the above-given extract, he advised Mr. Smith to have his examples recorded in the Bulletin. Mr. Maynard, it may be added, makes no reference to this small race in his "Birds of Florida," in treating of this species, although pale examples resembling var. *henryi* are noted (see Pt. VIII, p. 199). — J. A. ALLEN.]

HABITS OF VAUX'S SWIFT.—During the past season I had an unusually favorable opportunity for observing the habits of *Chetura vauxi* during the breeding season, or rather the mating season, for at the time of my observations they had not yet commenced to breed. Having learned that some Water Ouzels were to be found in a small stream that has its source in the numerous gulches of Mt. Tamalpias, situated in the township of San Rafael, Cal., I started, in company with a friend, early on the morning of May 2 of the present season (1879). We reached, after two hours of rough riding, the banks of Laganitas Creek, where we expected to find the Water Ouzels. The first birds that we met, however, were a small flock of Violet-green Swallows. Dismounting and picketing our horses, we commenced shooting these beautiful Swallows, which were now in perfect plumage. While engaged in this work, suddenly a Vaux's Swift made its appearance among the now frightened Swallows, which were circling around high overhead, and drifting down the valley of the stream, which lay between high mountains. We followed on, clambering over rocks and going around falls and rapids, until, about a mile and a half from the scene of our first operation, we found an open valley of some two hundred acres in extent. And such a sight! It was fairly swarming with Violet-green Swallows, which were so fearless that they would approach us so closely that we could easily see their black, sparkling little eyes. Having shot all these that we cared to, and being on the watch for the Swifts, we soon discovered them higher up on the sides of the mountains, to which we soon climbed, and took stations on the most prominent points in order to get favorable shots, as they came darting by with the rapidity of lightning. It was not long before we had opportunities to shoot, and brought down two or three, but found it a much more difficult matter than shooting the Swallows, on account of the great height and rapidity of their flight. To show the difference, I may state that in seven consecutive shots I brought down six Violet-greens, and out of fifteen shots I got only four Swifts.

These Swifts appear to me to differ in their habits from the Eastern bird, *C. pelagica*. They do not utter the sharp, rattling chipper of that species, but have a weak, lisping note, which is, as near as I can imitate it, *chip-chip-chip-cheweet-cheweet*, and this is only to be heard during the pairing season, when two, probably the male and female, are chasing each other. I have never seen them circling about in threes and fives, in the manner of *C. pelagica*, nor have I ever seen more than two together. Although as many as forty or fifty may be in sight at once, each pair or individual seems to keep aloof from the others. After the nesting season has begun they are to be seen only early in the morning, or till about nine o'clock, when they disappear to reappear again about an hour before dusk, though, should the day be overcast, they may be seen at nearly all hours of the day, as is the case during the pairing season, and also during the fall migration. They are to be found only on the highest hills or mountains, where there are

plenty of pines. In these trees they construct their nests, which they build in old holes excavated by the California Woodpecker. They invariably select old, decayed trees, and build at great heights, so that it is impossible to get their eggs. I made two trips after these Swifts, the last one on May 9. I got on each trip seven *C. vauri* and many fine Violet-green Swallows, though these were scarce on our last trip. We also found a small colony of Bell's Finches (*Poospiza belli*) on one of the hills we crossed on our way. It is very strange that I have never met these birds anywhere in the immediate neighborhood, as I have hunted deer for several years in all the surrounding country, and never met one except on this single hillside. A quarter of a mile distant, on either side of this hill, not one will be found. — CHARLES A. ALLEN, *Nicasio, Cal.*

EGGS OF *PICUS ALBOLARVATUS*. — Unless I am mistaken, no description has as yet been made public of the eggs of the White-headed Woodpecker. The eggs of this species were first discovered by Capt. Charles Bendire, in Southeastern Oregon. Mr. Charles A. Allen, of Nicasio, Cal., was so fortunate as to find this Woodpecker breeding in the Sierras of California, in the summer of 1879. A set of five eggs, now before me, procured for the Museum of Comparative Zoölogy, was taken on the 4th of June, at Blue Cañon, Placer Co., Cal. The nest was in a pine stump; the opening was about five feet from the ground, and had a depth of four inches. Below this it had a depth of eighteen inches, cut into the solid wood. The eggs were quite fresh. The female parent was taken on the nest and secured. The eggs are more than usually oblong-oval for a Woodpecker, of pure crystalline whiteness, and measure $.95 \times .73$; $.98 \times .70$; $1.00 \times .77$; $1.02 \times .73$; $1.02 \times .76$; averaging $.99 \times .74$. — T. M. BREWER, *Boston, Mass.*

THE BLACK-BACKED THREE-TOED WOODPECKER IN MASSACHUSETTS. — As we have so few records of the occurrence of *Picoides arceticus* so far south, an additional capture may be of interest. Mr. Charles N. Hammond has informed me of a male specimen in the collection of Mr. George Peck, who collected it at Hyde Park, Mass., the last of September, 1878. Other specimens recorded have been taken much later in the season. — RUTHVEN DEANE, *Cambridge, Mass.*

GOLDEN-WINGED WOODPECKERS NESTING IN A NATURAL CAVITY IN A DECAYED TREE. — I noticed to-day, May 12, 1879, in the vicinity of Princeton, N. J., a hole that looked, on first sight, like that of a Flicker (*Colaptes auratus*) that had been just finished. It was on the main trunk of a buttonwood-tree, about eighteen inches in diameter. On more closely examining the hole, I found that it merely pierced the "shell" of the tree, which was hollow entirely through its centre. It had evidently been drilled under a misapprehension, and the work abandoned as soon as the hollow condition of the tree was ascertained. On rapping on the trunk of this tree, I saw a Flicker leave a large branch at

its extremity, and the cavity from which she emerged was found on examination to contain seven fresh eggs. This cavity had not been formed by drilling or digging by the birds, but was simply a natural hollow caused by decay. The cavity started at a point where the branch had been broken, and was at its opening about three inches in diameter. It extended into the limb some two feet and a half, and the eggs were laid on the blackened rotten chips at its extremity. The birds had evidently designed to build in the tree, and having occupied much time at the work of drilling the hole spoken of in the main trunk, the female was obliged, by the necessity of laying her eggs, to find some immediate receptacle. So the natural cavity, in an entirely different part of the tree, was utilized. — W. E. D. SCOTT, *Princeton, N. J.*

NESTING OF THE DUCK HAWK (*Falco communis*) IN VERMONT. — On June 30, 1879, my friend, Mr. Frank Winslow, procured a fine female example of this species, on what is called "Buzzard Hill" in the south part of Brandon. The locality is rough and rocky, and a pair have bred in this vicinity, so I am informed by Mr. Winslow, for a period of more than twenty years. They were very destructive to the poultry in the vicinity, and many unsuccessful attempts were made to shoot them, until Mr. Winslow, remaining concealed near the nest for an entire day, shot both male and female as they returned about dusk. At the same time he destroyed the nest, which then contained one egg. — F. H. KNOWLTON, *Brandon, Vt.*

PROWESS OF THE BALD EAGLE (*Haliaeetus leucocephalus*). — Most of our recent authors have treated the Bald Eagle as a sluggish, fish-eating bird, whose entire stock of surplus energy is devoted to robbing a more industrious and less powerful neighbor. That it has not entirely lost its old-time daring, so graphically described by Audubon, the following account will show. I am indebted for my facts to Mr. Nathan Cobb, one of the oldest and most reliable of the professional Duck-shooters at Cobb's Island, Va. The species is a permanent resident in the neighborhood of the island, though it is not often seen during the summer months. A few, however, are said to breed upon the opposite main-land.

In the winter the Eagles are much more numerous than at any other time of the year, and my informant has, on several occasions, seen as many as eight at once. At this season the neighboring bays and creeks swarm with Wild-fowl, and upon these the Eagles principally live. He has never known them to capture fish of any kind, although they not unfrequently rob the Fish-Hawk. Geese and Brant form their favorite food, and the address displayed in their capture is very remarkable. The poor victim has apparently not the slightest chance for escape. The Eagle's flight, ordinarily slow and somewhat heavy, becomes, in the excitement of pursuit, exceedingly swift and graceful, and the fugitive is quickly overtaken. When close upon its quarry the Eagle suddenly sweeps beneath it, and,

turning back downward, thrusts its powerful talons up into its breast. A Brant or Duck is carried off bodily to the nearest marsh or sand-bar, but a Canada Goose is too heavy to be thus easily disposed of. The two great birds fall together to the water beneath, where the Eagle literally tows his prize along the surface until the shore is reached. In this way one has been known to drag a large Goose for nearly half a mile.

A single bird is usually seized at the first attempt, but Mr. Cobb has seen an Eagle repeatedly miss his aim when in the midst of a large flock. The very abundance of opportunities seems to bewilder him, and he thrusts wildly and harmlessly in all directions; but after the crowding masses have become scattered by his onslaught, a separate individual is selected, and quickly overtaken and killed.

Although the larger and heavier Water-fowl are more likely to be attacked, the royal bird seems to find little difficulty in overhauling the swiftest flying Ducks. The latter, however, often escape by diving, although in shallow water this resource sometimes proves of no avail, as the Eagle follows their course, and seizes them as they rise near the surface. Under favorable conditions even Grebes are sometimes captured.

In winter shooting the sportsman loses many a wounded Goose or Brant by the Eagles. They seem fully aware of the advantages to be gained by maintaining a close espionage upon the gunner's movements, and a bird that falls at any considerable distance from the stand is often seized and borne away before it can be recovered. Universally hated as he is by all the gunners of this island, the Eagle is not unfrequently killed by them in the following curious manner. The "stools," or decoys, which are relied upon to dupe the wary Water-fowl, sometimes deceive even the keen-eyed bird of prey, and in his eagerness to secure one of the apparently unsuspecting flock he stoops upon a wooden victim, and is riddled by a fatal discharge from the circle of sea-weed where the sportsman lies concealed. On several occasions, when the marauder's approach did not happen to be observed, Mr. Cobb has had a decoy lifted from the water and carried off several yards before the Eagle discovered his mistake.

In the course of my own experience I do not remember ever having seen a Bald Eagle capture, or even pursue, a bird of any kind. The most favorable opportunities for watching their habits have occurred in Maine, where, about some of the larger lakes, I have observed them fishing in the manner of the Osprey, and sometimes feeding upon dead and even putrid fish which had been cast up along the shores. During the past season a mortality occurred among the suckers in Lake Umbagog, and thousands were left upon the marshes and flats by the receding water. The Eagles assembled in such numbers that no less than twenty-five were counted in one day. — WILLIAM BREWSTER, *Cambridge, Mass.*

DESCRIPTION OF AN UNUSUAL (?) PLUMAGE OF BUTEO HARLANI. — The National Museum having lately acquired a fine specimen of this

species which differs notably in plumage from any example hitherto described, the following description may prove acceptable. In this connection, we would respectfully call attention to the fact that a record of the specimens of this obscure, yet most "excellent" species, contained in private collections in this country, is very desirable. We have several located, but no doubt there are some extant of which we have no knowledge. The specimen upon which Audubon based his well-known original description and figure of the species is now in the British Museum; two specimens only (including the one described below) are in the collection of the United States National Museum; there is one in the Museum of the Philadelphia Academy of Sciences, and one (a very fine adult male) in the Museum of the University of Kansas. These (with the exception of Audubon's type and the Ragsdale specimen) are all described in detail in Hist. N. Am. B., Vol. III, pp. 293, 294. Should any one have in his possession an example unquestionably of this species, which differs notably from any of those described, we should be very glad to be made aware of the fact.

Buteo harlani (Aud.): *Adult female*, No. 79084 (U. S. Nat. Mus.), *Gainesville, Texas, March 3, 1879, G. H. Ragsdale*.—Prevailing color of the upper parts blackish brown, relieved by streaks of pure white on the head and neck (where the whole concealed portion of the feathers is snow-white), the wings mottled or clouded with lighter brown; primaries marked, anterior to their emarginations, with broad bars of dusky black and brownish slate, the terminal portion being uniform brownish black. Upper tail-coverts irregularly spotted, chiefly toward edges, with clear ochraceous. *Tail white*, sparsely mottled, chiefly towards ends and along edges of the feathers, with hoary brown and dusky, with scarcely any admixture of ochraceous; crossed near the end by a tolerably well defined subterminal band of brownish black. *Chin, throat, jugulum, and whole breast, pure white*, marked with sharply defined tear-shaped longitudinal spots of brownish black; rest of lower parts brownish black, more or less barred and spotted with pure white beneath the surface. "Eye brown; cere and gape green; legs pale yellow." "Length, $22\frac{1}{4}$ "; wing, 15.75; tail, 10.00; culmen, 1.05; tarsus, 3.20; middle toe, 1.70.—R. RIDGWAY, *Washington, D. C.*

NOTE ON LIMOSA HEMASTICA.—The Hudsonian Godwit being still a bird none too well known, I have pleasure in presenting some notes respecting its habits, and the dissimilarity of the sexes, received from G. S. Ageesberg, of Vermilion, Dakota, who also sends me specimens of a very dark female and of a light-colored male. Regarding the habits of the bird, my correspondent states that they are very similar to those of *Macrorhamphus griseus*; and any one who will examine the latter genus closely will see how very near *Limosa* it is in form and proportions. He found these Godwits abundant about Vermilion, where they were very unus-

picious and easy to secure, as the Red-breasted Snipe usually is. They arrive in his locality about May 1, and linger until about the 20th of the month. The flocks are small, generally of from six to fifteen individuals, among which the males outnumber the females by twenty to one. The specimens from which the following measurements were taken were shot, May 7-19, on a small pond covering some twenty acres near Vermilion.

Measurements of Limosa hemastica.

No.	Date.	Length.	Wing.	Extent.	Tail.	Sex.	Bill.	Tarsus.	Tail and Claw.
87	May 7	14.75	8.00	—	3.00	♂	3.20	2.30	1.45
88	7	14.50	8.00	—	3.12	♂	2.95	2.25	1.35
89	7	15.50	8.75	—	3.25	♀	3.45	2.45	1.70
90	7	14.75	8.50	—	3.12	♂	2.95	2.30	1.30
91	7	14.25	7.75	—	3.00	♂	2.95	2.25	1.55
92	7	14.50	8.00	—	3.00	♂	3.00	2.20	1.55
93	7	15.00	8.42	—	3.25	♂	3.10	2.20	1.50
102	8	14.50	3.25	—	3.50	♂	2.80	2.30	1.60
103	8	15.00	7.75	—	3.25	♂	2.95	2.20	1.55
104	8	14.00	7.50	—	3.00	♂	2.85	2.20	1.55
105	8	16.50	8.50	—	3.50	♀	3.50	2.55	1.55
127	16	16.25	8.50	—	3.20	♀	3.55	2.50	1.60
128	16	14.75	8.50	—	3.20	♂	2.95	2.35	1.55
129	19	14.75	8.25	25.00	3.50	♂	2.90	2.25	1.55
130	19	14.75	8.40	24.50	3.50	♂	3.00	2.20	1.60
131	19	15.00	8.25	—	3.40	♂	2.90	2.20	1.65
132	19	15.00	8.25	26.00	3.25	♂	2.85	2.25	1.55
133	19	16.00	8.40	26.50	3.50	♀	3.40	2.45	1.50

Males weigh $7\frac{1}{2}$ to 8 oz.; females, 9 to $9\frac{1}{2}$ oz. — ELLIOTT COUES, *Washington, D. C.*

THE BLACK RAIL (*Porzana jamaicensis*) IN KANSAS. — As the occurrence of this rare little bird in Kansas rests upon a single specimen observed by Mr. J. A. Allen, I think its further discovery in the State may be of interest. May 3, 1879, a boy brought me a female, caught about two miles from this place, while burning off the grass on the upland prairie, but near a narrow strip of marshy land; the bird was driven by the fire to the burnt land, and was too much exhausted or frightened to attempt to fly or run away from him. The body was so badly injured before reaching me (probably stepped upon) that I was unable to preserve the skin, but saved the head, wings, legs, and feet. On dissection I noticed several of the ova were enlarged from their normal condition up to the size of No. 4 shot.

On the 18th of June, 1879, Prof. H. E. VanDeman, of the State Agricultural College, kindly sent me a female which he caught in his hands, near Beloit, Mitchell County, on the high prairie where water occasionally

stands in wet weather. He says there were two (probably a pair); that their flight was low, and not over a rod at a time; but they ran, dodged, skulked, and hid so quickly, that in catching the one he lost sight of the other, and although the grass was short he was unable to find it again. There were no signs of enlargement of the ovaries, and it being so late in the season I think she must have nested, and, from her actions, had young near by. I have mounted the bird, a beautiful specimen, and have it in my collection. Length, 6.00 inches; stretch of wings, 10.15; wing, 3.00; tail, 1.35; tarsus, .80; bill, .50. Iris red; bill black; legs and feet olive-brown; bottoms of feet grayish-white; claws brown. — N. S. Goss, *Neosho Falls, Kan.*

BREEDING OF *FULIGULA COLLARIS* IN SOUTHEASTERN MINNESOTA, AND A DESCRIPTION OF ITS NEST AND EGGS. — On the 1st of June, 1876, I took a nest and nine eggs of the Ring-necked Duck, about eight miles from Minneapolis, Hennepin Co., Minn. The nest was found on May 27, with its full complement of eggs, but on account of the absence of the parent it had to be left for further identification. It was not until the third visit that the bird was found on the nest, when she was shot as she flew off, and proved to be the female Ring-neck. The skin is now in my collection. This species is always sparingly represented in this locality during the summer months, and I have no doubt breeds here quite regularly. As I can find no account of the nest and eggs I give a description of these before me. The situation chosen for the nest was in a narrow strip of marsh bordering a large shallow pond or slough. About half-way between the shore and the edge of the open water was a mass of sunken *débris*, probably the remnants of an old muskrat house, which reached nearly or quite to the surface of the water, here about eight inches deep. On this foundation was the nest, a rather compact, bulky structure, built mainly of fine grass with a little moss intermingled. Outside, the grass is long and circularly disposed, while the bottom, inside, is composed of short broken pieces, and the inside rim of fine grass bent and loosely tangled together with considerable down among it. Measurements were not taken before removing the nest, but in its present condition the walls and base are two and a half inches thick, the diameter inside six inches, and the depth of the cavity three inches. The clutch was nine eggs, which contained small embryos. The eggs are perfectly smooth, and of a light greenish-white color, wholly unmarked. The measurements of seven of them are as follows: 2.19×1.58 ; 2.19×1.60 ; 2.23×1.58 ; 2.27×1.60 ; 2.23×1.62 ; 2.24×1.58 ; 2.25×1.62 . The general average is 2.23×1.60 . — THOS. S. ROBERTS, *Minneapolis, Minn.*

NOTES ON THE BREEDING HABITS OF SOME OF THE WATER-BIRDS OF ST. CLAIR FLATS, MICHIGAN. — The past season I had the good fortune to find two nests of the Red-head Duck (*Aythya americana*), con-

taining respectively seven and eight eggs. The nests were situated as follows. The first was placed on some drifted rushes on a sunken log, and was composed of flags and rushes evidently taken from the pile of drift upon the log, as they were short pieces, so short, in fact, that the nest when lifted with the hands fell in pieces. The nest was about four inches deep, and lined with down from the female. This nest contained seven fresh eggs of a creamy color, and varied in measurements from 2.30×1.75 to 2.22×1.66 inches, and were of a uniform oval shape, very little smaller at one end. The other nest was built similar to a Coot's nest, that is, of flags and grass interwoven at the base of a bunch of flags, growing in water three or four feet deep. It was built in such a way that the nest would rise and fall with the water. This nest also contained down and eight fresh eggs, uniform in size, shape, and color with the others. The birds, male and female, were flying around, and often came quite close to me. The cry of the female resembled the cry of the Mallard so nearly that, had I heard and not seen the bird, I should have supposed it to be the Mallard.

I saw small parties of Black-heads (*Fulix marila* and *F. affinis*) in groups of ten or twelve, mostly males, in a small piece of marsh between the south and middle channels. I found one nest of *F. marila*, containing three eggs. They were of a greenish-drab color, and measured 2.50×1.70 , and 2.37×1.75 inches. The nest was built in a tuft of flags, and composed of rushes and wild rice lined with some down and feathers. It was situated similarly to the Red-head's nest, resting in the water, and being held in place by the tuft of flags in which it was built. I killed the female as she was circling around me while I was examining the eggs. I saw fifty or more birds of this species and *F. affinis*, while punting about, and as I did not find any more nests I concluded I was too early for them. I intended to go again a week or so later, but could not do so.

The Black Terns (*Hydrochelidon lariformis*) were just coming in. The Bonaparte Gulls (*Larus philadelphia*) had not yet arrived. Several hunters who live at the flats told me that the Bonaparte Gulls breed in Baltimore Bay and the North Channel, and that they lay their eggs on old logs with no signs of a nest. — W. H. COLLINS, *Detroit, Mich.*

THE KING EIDER AT BUFFALO, N. Y. — Although the King Eider (*Somateria spectabilis*) has been recorded as occurring at Lake Erie ("Wheaton, Ohio Agric. Rep. 1860," — *file* Cones, Bds. Northwest, p. 581), and as a "rare winter visitant" to Lake Michigan (Nelson, Bull. Essex Inst., VIII, p. 143), its presence near Buffalo, N. Y., in such numbers as the following communication indicates, seems worthy of record. Mr. Charles Linden, of that city, in a letter dated Nov. 26, 1879, writes: "I send you a fresh-shot specimen of what appears to be *Somateria spectabilis*, young. . . . Several flocks of them have, for the first time, made their appearance in the Niagara; they are very tame, allow approach to

within a few yards, dive readily, and appear again a long distance from where they dove. They are evidently not used to the lurking dangers of the gun, and have probably found their way up the St. Lawrence, up Lake Ontario, and across to Lake Erie. There have been to my knowledge at least eighteen of them shot. They are generally found in small flocks of three or four birds." The specimen sent arrived in good condition, and Mr. Linden has my thanks for the kind attention.—J. A. ALLEN, Cambridge, Mass.

CAPTURE OF PHAËTHON FLAVIROSTRIS IN WESTERN NEW YORK.—One of the rarest and most interesting of the occurrences of sea-birds, of which we now and then hear, has been brought to my notice, the case being that of a Tropic Bird in Orleans Co., New York. A letter received from Mr. David Bruce, dated Brockport, N. Y., November 18, 1879, gives the particulars:—

"I enclose a rough sketch of a bird picked up exhausted in a field, after a severe southeast storm, at Knowlesville, Orleans Co., about twenty miles from here. It was given alive to the Rev. J. H. Langille of that village, who killed and preserved it. It is a Tropic Bird, in immature plumage. I think the occurrence of this oceanic bird so far inland will interest you."

I am also in receipt of a letter from Mr. Langille on the same subject. Mr. Bruce's colored sketch, of life-size, shows the species to be *Phaëthon flavirostris* of Brandt. It is a bird of the year, undoubtedly, as the central tail-feathers are not filamentous, and only project a couple of inches. Both the gentlemen mentioned have my thanks for their kind attentions in acquainting me with a case so interesting.—ELLIOTT COUES, Washington, D. C.

THE MARSH AND SOOTY TERNS IN MAINE, AND OTHER BIRDS RARE TO THE STATE.—I am indebted to Mr. George A. Boardman for the record of a specimen of *Sterna anglica* which was shot at Grand Menan in the latter part of August, 1879, by one of his collectors. The only previous New England record* was a specimen taken at Ipswich, Mass., in September, 1871.

At the time Mr. Boardman's Tern was shot, three specimens of *Hydrochelidon nigra* were sent to him from the same locality, which Tern seems to be of unusual occurrence on the Maine coast. The first coast record was given by Mr. N. C. Brown in this Bulletin (Vol. IV, p. 108). At about the same date of the above captures a Black Vulture was shot on Campobello Island, near Eastport, and a Great White Egret at Grand Menan. It was at this time that the Black Skimmers were taken near Eastport, and recorded in the Bulletin (Vol. IV, p. 242). The occurrence of all these Southern species so far from their usual range must be attrib-

* Am. Nat., May, 1872, p. 306.

uted to their having been blown north by a southerly storm, which commenced as far south as the West Indies about the 16th of August, and raged along the entire coast, reaching the Maine shore two days later. The storm was particularly severe off the Virginia coast, and Mr. William Brewster, who collected on Cobb's Island, off Norfolk, in September, informs me that the scarcity of a number of species which are generally common there was caused by their having been blown north by the gale of the previous month.

Through the kindness of Mr. Horace R. True I have recently examined an adult specimen of *Sterna fuliginosa*, which was captured alive in the town of Parkman, Piscataquis Co., Me., some eighty miles from the coast, October 5, 1878. It was picked up in the road in an exhausted condition, and died the next morning.

Mr. True writes me that another Tern was seen in the same locality the following day, which may have been one of this species. — RUTHVEN DEANE, *Cambridge, Mass.*

THE CASPIAN TERN PROBABLY BREEDING IN FLORIDA. — In the October number of the Bulletin (Vol. IV, p. 243) I see the Caspian Tern (*Sterna caspia*) recorded as being found on the coast of Virginia and breeding there. I would say I shot the bird at Lake Jessup, Florida, the 13th of March, 1876. There was a large flock of them. I also saw specimens shot near Tampa Bay (by Mr. Everett Smith, of Portland, Me.) late in May, and I have no doubt they were breeding there. I do not think the Caspian Tern is very rare in Florida, but it is taken for the Royal Tern. We see them here in Maine, on their migrations, about the 20th of May, and again in September. — G. A. BOARDMAN, *Milltown, Me.*

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No. 2.

LIST OF OCCURRENCES OF NORTH AMERICAN BIRDS IN EUROPE.

BY J. J. DALGLEISH.

I HAVE endeavored, in the following list, to place in a convenient form for reference all the notices of the occurrence of North American birds in Europe which have been recorded up to the present year. It has no pretensions to being more than a compilation from the best published authorities on the birds of Europe, and, although great care has been taken to secure correctness, it is nevertheless inevitable that some recorded instances may have escaped notice; and for such omissions I must claim the indulgence of my readers. I, however, flatter myself that none which do not appear here have much claim to authenticity. In many cases, I have been much indebted to information kindly given me by the best-known living ornithologists of Europe, and to whom my best thanks are due for their assistance. I would particularly desire to mention the names of Messrs. Meves of Stockholm, Collett of Christiania, Reinhardt and Benzon of Copenhagen, Brandt of St. Petersburg, Von Pelzeln of Vienna, Gütke of Heligoland, Taczanowski of Warsaw, Salvadori of Turin, Baron de Selys-Longchamps of Liège, Bureau of Nantes, and Barboza du Bocage of Lisbon, on the continent of Europe, and of Messrs. Newton and Dresser in England. I also have to acknowledge here the aid I have derived from the notices recorded in Mr. Harting's "Hand-book of British Birds," of the occurrence of North American birds in Great Britain.

The only previous list known to me is one by the Baron Selys-

Longchamps, in the "Mémoires de la Société Royale des Sciences de Liège," Vol. IV, April, 1846, entitled, "Sur les Oiseaux Américains admis dans la Faune Européenne," in which he has severely criticised the then existing records, and deleted therefrom the following seventeen species, whose authenticity seemed not to be substantiated: *Strix nebulosa*, *Setophaga ruticilla*, *Corvus spermolegus* (*americanus*?), *Junco hyemalis*, *Spiza ciris*, *Passerella iliaca*, *Sylvicola noveboracensis*, *Sitta canadensis*, *Parus bicolor*, *Meleagris gallinapavo*, *Ortyx virginiana*, *Ciconia americana*, *Ardea herodias*, *Ardea cayennensis*, *Anser canadensis*, *Anas sponsa*, and *Cairina moschata*. He also places in the same category the names of *Haliaëtus leucocephalus*, *Loria leucoptera*, and *Harporhynchus rufus*, of which I find sufficient evidence, in later records, to place in the list of undoubted occurrences.

The number of species admitted by him in 1846 of those whose appearance in Europe seemed confirmed, after deducting *Larus sabinii* and *Larus rossii*, which rather belong to those circumpolar species common to both continents, is only eighteen, while it will be observed that, not including the nine species mentioned below as unworthy of credence, upwards of sixty-nine are there recorded, of whose appearance on at least one occasion there seems at present no reasonable doubt.

Into the question of migration, or the routes likely to have been taken by these stragglers to European shores, I have not at present presumed to enter, this subject having already been so well treated of by Professor Baird, in his article in the "American Journal of Science and Art," Vol. XVI, May, 1866. On this subject I would, however, also call attention to an article in the "Proceedings of the Zoölogical Society of London," by Herr H. Gätke, contained in the volume for 1860, p. 105, on the occurrence of American birds in Europe, and more particularly in Heligoland. This small and comparatively insignificant islet in the North Sea has of recent years, as is well known, attracted considerable interest, in consequence of the myriads of birds of all sorts which visit it from time to time, on migration; and it will be seen that those of North America, even, have not failed to put in an appearance in its potato-fields, the only shelter it possesses. It will be observed that upwards of fourteen individuals, including twelve species, are recorded as having occurred since the veteran ornithologist Gätke first took up his residence there, now nearly forty years ago. Perhaps it may not be out of place

here to mention that an extensive series of observations on migration, with reference particularly to the prevailing winds and weather at the periods of such, are at present being carried on in Great Britain, by Messrs. Cordeaux and Harvie-Brown, by means of returns kept by the keepers of the various light-houses on its coasts, with the sanction of the authorities, and with the co-operation of Herr Gätke at Heligoland by means of his observations there, and from which important results are expected. The first year's report is to appear in the "Zoölogist" for May of this year.

I have not ventured, on the other hand, to enter into any disquisition respecting the authenticity of the various records, but I have stated the doubts which have been thrown on some of these by others better qualified to give an opinion. I have considered it better to include such, with the doubts alluded to stated, rather than to omit these altogether, however well founded the latter may be.

I have had some difficulty in determining which species should be included as North American birds, but, with two exceptions, I have excluded all those which appear in Bonaparte's "Comparative and Geographical List of the Birds of Europe and North America" (1838) as common to both continents. These exceptions are *Surnia funerea* and *Clangula histrionica*, the former being now considered as a distinct species from *S. ulula*, the European Hawk-Owl, and the latter I have retained, as Iceland is the only part of Europe where it may be said to be a permanent resident. I have also added a note of the occurrence of three species which, although not strictly North American, are yet oceanic in their distribution, and thus occur more or less irregularly on the shores of that continent, and whose appearance, moreover, in Europe is worthy of notice. These are *Sterna fuliginosa* and *S. anetheta*, the Greater and Lesser Sooty Terns, and *Anous stolidus*, the Noddy Tern.

The various countries which have been visited by the different species are placed in the same sequence throughout, and the occurrences in chronological order. The names of these countries are, for easy reference, printed in heavier type, and the date of each occurrence, so far as known, is placed at the end of the record in similar type.

In some cases I have avoided general notices by authors where no particulars are given of the locality or date, believing that such are of no practical value. The references given are to the original

authority, but in cases where such may be little known, or the work scarce, a second is given, where such exists, which is placed in italics, within parentheses. The references to Yarrell's "British Birds" are, except where otherwise stated, to the third and last completed edition.

I may only add, that I shall be most happy to receive notes of any additions or corrections to the list, which may add to its usefulness.

I. *Turdus migratorius*, *L.* AMERICAN ROBIN.

Great Britain. 1. One caught alive at Dover. Harting, *Zoöl.*, 1877, p. 14. Now or lately in *Zoöl. Soc. Gardens, London.* **April or May, 1876.**

Germany. 1. One, purchased in the flesh, in the Berlin market. Naum., 1852, part 1, p. 123. In coll. of Prince Radzivill. **Dec., 1851.**

Heligoland. 1. One. Gätke, in lit., 25 May, 1878. In his coll. **Oct., 1874.***

Austria. 1. One, at Aspoug. *Verh. Zool.-bot. Gesellschaft Wien*, 1871, p. 3. In *Imp. Mus., Vienna.* **Dec., 1820.**

2. One, at Frouenberg, Bohemia. *Verh. Zool.-bot. Gesellschaft Wien*, 1876, p. 15. In *Imp. Mus., Vienna.* ?

3. One, obtained in Vienna game-market. Newald, *Mittheilungen du Ornithol. Wien*, 1878, p. 19. **Autumn, 1846.**

Obs. — These three last-mentioned occurrences have been pointed out to me by the kindness of Herr August von Pelzeln of Vienna.

Italy. **Obs.** — A specimen, which was said to have been obtained in Tuscany, whose occurrence was communicated to the Italian Congress of Science in Milan, in 1844, proved to be *Accentor alpinus*, the Alpine Accentor. Salvadori, *Fauna d' Italia (Uccelli)*, p. 91.

II. *Turdus pallasi*, *Cab.* HERMIT THRUSH.

Heligoland. 1. One. Gätke, in lit., 25 May, 1878. **Autumn, 1836.**

Germany. 1. One, caught alive near Kleinerbst, Duchy of Anhalt-Köthen. Naumann, *Isis*, 1826, p. 526. (Degland and Gerbe, *Orn. Eur.*, I, p. 426.) **22 Dec., 1825.**

Switzerland. 1. One, in the Museum of Strasbourg, killed in Switzerland. Degland and Gerbe, *op. cit.* ?

Austria. 1. One, near Vienna (doubtful). Thienemann, *Rhea*, I, 1846, p. 125. ?

III. *Turdus swainsoni*, *Cab.* OLIVE-BACKED THRUSH.

Heligoland. 1. One. Cordeaux, *Ibis*, 1875, p. 177. In coll. of Herr H. Gätke. **2 Oct., 1869.†**

* Mr. Seebohm considers this as having probably escaped from confinement.

† Mr. Seebohm considers this occurrence as very doubtful.

Belgium. 1. One, near Namur. Deby, Zoöl., 1848, p. 1966. In coll. of Baron de Selys-Longchamps. **Oct., 1847.**

Italy. 1. One, Liguria. Salvadori, Fauna d' Italia (Uccelli), p. 81. **Autumn, 1843.**

OBS. — Degland and Gerbe (Orn. Eur., I, p. 427) mention its occurrence in France, and, according to Ch. Bonaparte, in Germany; but they give no particulars, or otherwise authenticate the statement.

IV. *Turdus fuscescens*, Steph. WILSON'S THRUSH.

Germany. 1. One, Pomerania. Degland and Gerbe, Orn. Eur., I. p. 424, fide Homeyer. ?

V. *Mimus carolinensis*, Gray. CATBIRD.

Heligoland. 1. One. Gätke, Journ. f. Orn., 1856, p. 71. In coll. of Herr H. Gätke. **28 Oct., 1840.**

VI. *Harporhynchus rufus*, Cab. BROWN THRUSH; SANDY MOCKING-BIRD.

Heligoland. 1. One. Gätke, J. f. O., 1856, p. 71. In coll. of Herr H. Gätke. **Autumn, 1838.**

VII. *Regulus calendula* (L.). RUBY-CROWNED WREN.

Great Britain. 1. One, on the banks of Loch Lomond. Gould, Proc. Zoöl. Soc. London, 1858, p. 290. **Summer, 1852.**

[*Parus bicolor*, L. TUFTED TITMOUSE.

OBS. — Temminck (Man., III, p. 210) says this species has often been observed in Sweden and Denmark, but doubtless this is a mistake.]

VIII. *Anthus ludovicianus* (Gm.). AMERICAN PIPIT.

Great Britain. 1. One, near London. Edwards, Gleanings, II, p. 185, pl. 297. (Harting, Hand-book Br. B., p. 109.) ?

2. One, Middlesex. Montague, Orn. Diet., Art. "Lark, Red." (Harting, l. c.) ?

3. One, near Woolwich. Montague, op. cit. (Harting, l. c.) **1812.**

4. Two, near Edinburgh. Macgil, Man. Br. B., p. 169. (There confounded with *A. spinoletta*) Harting, l. c. **2 June, 1824.**

5. Two, Rathlin Islands, Co. Donegal. Tristram, Science Gossip, 1861. (Harting, l. c.) ?

6. Three, Dunbar, E. Lothian. Turnbull, B. of E. Lothian, p. 40. (Gray, B. W. of Scot., p. 116; Harting, l. c.) ?

7. Several seen, Dunbar, E. Lothian. Gray, op. cit. (Harting, l. c.) **Winter, 1846.**

8. One, Freshwater, Isle of Wight. Harting, l. c., fide Bond. **Sept., 1865.**

9. One, Bridlington, Yorkshire. Boynton (fide Slater and Bree), Zoöl., 1870, p. 2021. On this specimen vide also Zoöl., tom. cit., pp. 2067 and 2100.

Obs. — Messrs. Newton, Dresser, and Harting concur in considering all the above occurrences *very doubtful*, and that in most cases they had been confounded, either with *A. spinoletta*, the Water Pipit of Continental Europe, or a rufous-breasted variety of *A. obscurus*, the Rock Pipit, found in Scandinavia.

Heligoland. 1. One, a young bird. Gätke, J. f. O., 1856, p. 71. In coll. of Herr H. Gätke. **6 Nov., 1851.**

2. One, adult. Gätke, Naum., 1858, p. 423. In coll. of Herr H. Gätke. **17 May, 1858.**

Obs. — There being so much hesitation about the admission of the British specimens of this species, it may be well to mention that those obtained at Heligoland, by Herr Gätke, are undoubted. Mr. Seeböhm states that this bird, being common in Alaska, Kamtchatka, and Japan, the specimens here recorded have probably strayed across Siberia to Heligoland.

IX. *Dendroeca virens* (Gm.). BLACK-THROATED GREEN WARBLER.

Heligoland. 1. One. Gätke, Naumannia, 1858, p. 423. In coll. of Herr H. Gätke. **19 Oct., 1858.**

X. *Hirundo bicolor*, Vieillot. WHITE-BELLIED SWALLOW.

Great Britain. 1. One near Derby. Wolley, Zoöl., 1853, p. 3806. **1850.**

XI. *Hirundo purpurea*, L. PURPLE MARTIN.

Great Britain. 1. One, Kingstown, County Dublin. Yarr., Br. B., II, p. 267. **1840.**

2. One, near Huddersfield, Yorkshire. Hobkirk, Huddersfield, its History and Nat. Hist. Harting, Hand-book Br. B., p. 125. **1854.**

Obs. — One, said to have been shot near Macclesfield, Cheshire, was sold, with other birds from Macclesfield Museum, in London, 1861. Harting, l. c. Two others are mentioned by Yarrell as having been obtained at Kingsbury, Middlesex, in Sept., 1842, but he was misinformed. Harting, l. c.

XII. *Ampelis cedrorum*, Baird. CEDAR BIRD.

Great Britain. 1. Two, at Stockton-on-Tees, on two following days. Newton, Zoöl., 1852, p. 3507. **Early in 1850.**

Obs. — Prof. Newton has also recorded (in Zoöl., 1851, p. 3277.) one, said to have been killed in Cambridgeshire, but in a later communication (Zoöl., 1852, p. 3507), recording the two mentioned above, he states that he has been unable to authenticate the Cambridgeshire occurrence.

XIII. **Vireosylvia olivacea**, *Bon.* RED-EYED FLYCATCHER.

Great Britain. 1. Two, Chellaston, near Derby. Mosley, Nat. Hist. Tutbury (1863), p. 385, and plate (Harting, Hand-book Br. B., p. 99). One of these, a male, is in coll. of Edwin Brown, Burton-on-Trent. **May, 1859.**

XIV. **Loxia leucoptera**, *Gm.* WHITE-WINGED CROSSBILL.

Great Britain. 1. One, near Worcester. Yarrell, Br. B., 4th ed., p. 219. In Strickland coll., Cambridge. **1838.**

2. One, near Jedburgh, Roxburghshire. Gray, B. of W. of Scot., p. 155. (Harting, Hand-book Br. B., p. 116.) **Feb., 1841.**

3. One, near Exmouth. Fitton, Zool., 1845, p. 1190. **17 Sept., 1845.**

4. Four, Edwinstowe, Notts. Sterland, B. of Sherwood Forest. (Harting, l. c.) **April, 1849.**

5. Two, Halligarth, Shetland. Saxby, Birds of Shetland, p. 115. **4 Sept., 1859.**

6. A large flock, seen near Banff. Edward, Zool., 1859, p. 6631. **1859.**

7. One flew on board a vessel in the North Sea, and lived in confinement five years. Trans. Norf. and Norw. Nat. Hist. Soc., 1872-73, p. 117. (Yarrell, Br. B., 4th ed., II, p. 219.) **1870.**

Obs. — Prof. Newton, in the 4th ed. of Yarrell's Br. B., only mentions Nos. 1, 3, and 7 of the above instances, without referring to the others. It may be here mentioned, that Gray states, in his B. of W. of Scot., that some years ago the late Dr. Dewen of Glasgow, when crossing the Atlantic, observed a flock of these birds about 600 miles off Newfoundland, flying eastward before a stiff westerly breeze, ten or twelve of which were captured. Besides those noted above, Gould, in his B. of G. Br., records the following, all of which may be regarded as very doubtful:—

1. One, near Belfast. **1802.**

2. Four or five, near Thetford. **10 May, 1846.**

3. One at Bury St. Edmunds. **1846.**

4. One from a flock of five or six, Suffolk. ?

To these may be added the following, concerning which great doubts of their authenticity exist:—

1. One, mentioned by Pennant. ?

2. One, near Northampton. Morris, Br. B., III, p. 350. **1848.**

3. One, near Ipswich. Morris, l. c. ?

4. Nine, Norfolk. Morris, l. c. ?

5. One, near Penzance. Morris, l. c. ?

6. One, near London. Mitford, Zool., 1876, p. 4835. **1876.**

Heligoland. Obs. — A specimen which has been recorded by Herr Gätke, as obtained in Aug., 1844, has proved to be an error. Gätke, in lit., 25 May.

Denmark. 1. One, at Kalkbroudieret, near Copenhagen. Kjobolling, Skandin. Fugle, p. 384. **Oct., 1844.**

2. One, near Copenhagen. Kjobolling, Skandin. Fugle, l. c. **1845.**

3. One, in a garden near Elsinore. Kjobolling, Skandin. Fugle, l. c. In University Museum, Copenhagen. **29 Dec., 1849.**

4. One, near Herlufsholm. Kjobolling, Skandin. Fugle, l. c. ?

5. One, near Hensborg, Sleswig. Rohweder, Vög. Schleswig-Holstein, 1875, p. 9. **1851.**

Obs. — These five occurrences are kindly communicated by Herr A. Benzon of Copenhagen.

Nilsson mentions that nearly a dozen have been obtained in Sweden, but these are not authenticated.

XV. *Zonotrichia albicollis*, Bon. WHITE-THROATED SPARROW.

Great Britain. 1. One, Aberdeen Links. Angus, Proc. Nat. Hist. Soc. Glasgow, I, p. 209. (Zool., 1869, p. 1547.) **17 Aug., 1867.**

2. One, near Brighton. Rowley, P. Z. S. Lon., 1872, p. 681. **22 March, 1872.**

[*Dolichonyx oryzivora*, Sw. BOBOLINK.

Heligoland. Obs. — This species has occurred twice in this island, one of the specimens being evidently an escaped bird, from which it may be doubted that the other had also been in confinement.]

XVI. *Agelæus phœniceus*, Vieill. RED-WINGED BLACKBIRD.

Great Britain. 1. One, near London. Albin, Hist. Br. B., I, p. 36. (Harting, Hand-book Br. B., p. 117.) ?

2. One, Barton Broad, Norfolk. Gurney, Zool., 1843, p. 317, and 1864, p. 9024. **June, 1843.**

3. One, Shepherd's Bush, Middlesex. Yarrell, Br. B., II, p. 40. **Autumn, 1844.**

4. One, Sidlesham, Sussex. Jeffery, Zool., 1864, p. 8951. **25 Dec., 1863.**

5. One, Romney, Kent. Harting, l. c. **1864 or 1865.**

6. One, Liphook Hants. Jesse, Zool., 1865, p. 9782. **16 May, 1865.**

7. One, Hove, near Brighton. Monk, Zool., 1866, p. 229. **21 March, 1866.**

8. One, near Banff. Edwards, Zool., 1866, p. 310. **June, 1866.**

9. One, found dead under telegraph wires, at Adwick-le-Street, Yorkshire. Mosley, Zool., 1877, p. 257. **March, 1877.**

Obs. — Besides the above, Gray, in B. of W. of Scot., p. 156, records one as having been *seen* in East Lothian, a few years ago.

Italy. 1. One, near Belinzago, Lombardy. Salvadori, Fauna d' Italia (Uccelli), p. 165. **Oct., 1864.**

XVII. ***Sturnella magna* (L.).** MEADOW LARK.

Great Britain. 1. One, Thrandeston, Suffolk. Selater, Ibis, 1861, p. 176. ?

2. One, seen by Major Jary, South Walsham, Norfolk. Selater, l. c. ?

3. One, near Cheltenham, many years ago. Lloyd, Field Newspaper, 11 Mar., 1871. (Harting, Hand-book Br. B., p. 118.) ?

XVIII. ***Ceryle alcyon* (L.).** BELTED KINGFISHER.

Great Britain. 1. One, Annsbrook, County Meath. Thompson, Ann. Nat. Hist., 1845 and 1846. (Nat. Hist. Irel., Birds, I, p. 373.) **26 Oct., 1845.**

2. One, Luggelaw, County Wicklow. Thompson, op. cit. **Nov., 1845.**

XIX. ***Coccygus erythrophthalmus* (Wilson).** BLACK-BILLED CUCKOO.

Great Britain. 1. One, Killead, County Antrim. Lord Clermont, Zool., 1872, p. 3022. (Recorded as *C. americanus* in error, Blake Knox, tom. cit., p. 2943.) **25 Sept., 1871.**

Italy. 1. One, near Lucca. Bolle, J. f. O., 1858, p. 457. Salvadori, Fauna d' Italia (Uccelli), p. 42. In Museum of University of Pisa. **1858.**

XX. ***Coccygus americanus* (L.).** YELLOW-BILLED CUCKOO.

Great Britain. 1. One, Youghal, County Cork. Ball, Field Naturalist's Mag., 1832, p. 6. (Thompson, Nat. Hist. Irel., Birds, I, p. 365.) **Autumn, 1825.**

2. One, near Bray, County Wicklow. Ball, l. c. Thompson, l. c. ?

3. One, Cornwall. Yarrell, Br. B., II, p. 210. ?

4. One, Stackpole Court, Pembrokeshire. Tracey, Zool., 1851, p. 3046. **Autumn, 1832.**

5. One, near Aberystwith, Cardiganshire. Cousens, Field Newspaper, 5th Nov., 1870. (Harting, Hand-book Br. B., p. 124.) **26 Oct., 1870.**

France. OBS. — Degland and Gerbe (Orn. Eur., I, p. 166) state that two are recorded by Jaubert as obtained in the South of France, but they point out that there is no evidence to show that they really were *C. americanus*.

Belgium. 1. One, at Bois de Lessines. Bull. d'Acad. Royale de Belg., 2 Série, Vol. XXXIX, p. 9, Jan. 1875. In coll. of M. Cesar Fontaine, at Papignies. **Oct., 1874.**

XXI. ***Picus villosus*, L.** HAIRY WOODPECKER.

Great Britain. 1. Two, Halifax, Yorkshire. Latham, Gen. Syn., II, p. 578. (Harting, Hand-book Br. B., p. 122.) In coll. of Duchess of Portland. ?

2. One, near Whitby, Yorkshire. Higgins, Zool., 1849, p. 2496. **1849.**

XXII. **Picus pubescens**, L. DOWNY WOODPECKER.

Great Britain. 1. One, Bloxworth, Dorsetshire. Cambridge, Zool., 1859, p. 6444. Dec., 1836.

XXIII. **Colaptes auratus** (L.). YELLOW-SHAFTED FLICKER.

Great Britain. 1. One, Amesbury Park, Wiltshire. Marsh, Zool., 1859, p. 6327. In coll. of — Marsh, Amesbury Park. Autumn, 1836.

XXIV. **Surnia funerea** (L.). AMERICAN HAWK-OWL.

Great Britain. 1. One, came on board a collier, off the coast of Cornwall. Proc. Zool. Soc. Lond., 1835, p. 77. In Mus. Trin. Coll., Dublin. March, 1830.

2. One, near Yatton, Somerset. Higgins, Zool., 3029. In coll. Mr. Borrer. Aug., 1847.

3. One, Maryhill, near Glasgow. Gray, B. W. of Scot., p. 64. 1863.

OBS. — One was taken to the shop of a bird-stuffer in Greenock, Nov., 1868, supposed to have been killed near that town, as it was in the flesh. Gray, l. c. Another, recorded in Yarrell's Br. B., 4th ed., p. 184, as having been killed in Unst, Shetland, in winter 1860–61, proved to be *Surnia ulula*, and is so recorded in Saxby's B. of Shet., p. 54. Dresser (B. of E., pt. 11, 12) has first called attention to the fact of these occurrences of the Hawk-Owl in Britain having been those of the American species.

[**Scops asio** (L.). MOTTLED OWL.

Great Britain. 1. One, Kirkstall Abbey, Yorkshire. Naturalist, 1855, page 169 and fig. (Harting, Hand-book Br. B., p. 92). 1852.

2. One, near Yarmouth. Stevenson, B. of Norf., I. 164. (Harting, l. c.) ?

OBS. — The occurrence of this species in England must be considered doubtful. (Harting, l. c.)]

[**Syrnium nebulosum** (Forst.). BARRED OWL.

OBS. — Brehm, in his Lehrbuch, p. 69, says this species is rare in Norway and Sweden, but gives no authority for this statement, which seems extremely doubtful.]

[**Nyctale acadica** (Gm.). SAW-WHET OWL.

OBS. — Sir W. Milner, in Zool., 1860, p. 7104, records one of this species as having been obtained near Beverley, Yorkshire, but Harting, in his Hand-book, considers it extremely doubtful, and Prof. Newton, in his 4th ed. of Yarrell's Br. B., states his belief that Sir W. Milner had mistaken the species.]

(To be continued.)

NOTES ON THE WINTER PLUMAGE OF *LEUCOSTICTE*
TEPHROCOTIS, Sw., AND *L. TEPHROCOTIS* VAR. *LIT-*
TORALIS, Bd.

BY DR. J. C. MERRILL, U. S. A.

THE question of the possibility of distinguishing with certainty the sexes of the Gray-crowned Finch by the plumage alone has been warmly contested by several ornithologists. The following remarks are based upon the examination of thirty-five specimens of the Gray-crowned Finch (*L. tephrocotis*) and twelve specimens of Hepburn's Finch (var. *littoralis*), which numbers probably represent the comparative abundance of the two forms in this vicinity (Fort Shaw, Montana), for they were shot without selection as opportunity offered.

These Finches were first noticed here shortly before Christmas, when a heavy snow-storm and very cold weather (the mercury solidifying on several occasions) brought many birds about the Fort for food and shelter. Of these, Snow Buntings and Shore Larks (var. *leucolema*) were the most abundant, and mingled with them were Red-polls and the present species. During the most severe weather the Finches, when not feeding, sought shelter in Cliff Swallows' nests under the eaves of the stables, — a habit I did not observe in the other species. From that time to the present, about two months, the birds have been quite common, but only during storms; they appear about the buildings within an hour or two of the first fall of snow, and remain until the storm is over. They are now to be found for a day or two among the weeds in the post garden, and then disappear until the next storm; nor has diligent search revealed their haunts at these intervals. Though very tame, and associating freely with the Buntings and Larks while in the Fort, at the garden the Finches are usually seen in small flocks by themselves, or with the Red-polls. Here they are restless rather than shy, continually rising without apparent cause, to settle immediately near the same spot. The only note I have heard is a rather musical *chink*. On dissection the œsophagus was always found distended with the seeds of a small weed. Both Finches mingle indiscriminately. At this season of the year they are alike in having the bill yellow with dusky tip, iris brown, the legs and feet brownish black.

The average measurements (in inches and hundredths) of the series now before me are as follows : —

		Length.	Wing.	Tail.
<i>L. tephrocotis</i> , 22 males,	average,	6.65	4.03	2.82
	largest,	6.86	4.14	3.00
	smallest,	6.40	3.90	2.63
<i>L. tephrocotis</i> , 13 females,	average,	6.48	3.86	2.71
	largest,	6.80	4.01	2.86
	smallest,	6.25	3.70	2.40
<i>L.</i> , var. <i>littoralis</i> , 8 males,	average,	6.63	4.01	2.88
	largest,	6.83	4.10	2.97
	smallest,	6.30	3.86	2.76
<i>L.</i> , var. <i>littoralis</i> , 4 females,	average,	6.67	3.82	2.78
	largest,	6.81	3.83	2.86
	smallest,	6.50	3.80	2.63

In *tephrocotis* the sexes are usually distinguishable by the much paler plumage of the females. In these the deep chocolate of the breast of the males, not at all or but slightly tipped with whitish, is replaced by a dingy brownish-chestnut, the feathers broadly tipped; the pinkish tinge of the abdomen is much paler than in the males, and the white more extended; the pink tips of the feathers on the rump are about as broad and bright as in the male, and in obvious contrast with the paler tint of the abdomen; in the male, if a contrast exists at all, the rump is of a lighter pink than the abdomen. The black frontal patch in the females is not so well defined behind as in the other sex; in several specimens it continues as a dusky band to the back, thus changing the gray hood into a lateral stripe on each side, an effect not seen in any of the males. In both sexes there is considerable variation in the shade of the gray crown, but as a rule it is clearer in the male. The yellowish-white edgings of the feathers of the wings and back are too variable to be of value as a distinctive character. As a general but not invariable rule, the longest under tail-coverts of the male are tipped with pinkish, those of the female with yellowish or brownish-white. Comparing the brightest-colored female with the palest male, the principal points of difference are the backward extension of the black frontal patch in the female, the paler abdomen, and the contrast in shade between the rump and abdomen, as indicated above; these, with the faded appearance of the females, are, I think, the most characteristic points of difference between the sexes.

In general, these remarks apply equally well to var. *littoralis*, though my series of this form is not as extensive as is desirable. Both sexes average a higher plumage than do those of *tephrocotis*. The abdomen of the male is a very deep pink, and this color is better marked in the edgings of the wing feathers. Two males have the chin, as well as throat, dark chocolate; in one the gray of the cheeks extends across the throat, which is also the case in two females.

One specimen, a male, shows the relationship of the two forms in an interesting manner: the right cheek is chestnut, as in *tephrocotis*; on the left, the auriculars are gray, with darker shafts.

In conclusion, the above characters are sufficient to correctly determine the sex of any of my specimens without reference to the labels.

FORT SHAW, MONTANA.

NOTES ON THE AMERICAN VULTURES (*SARCORHAMPHIDÆ*), WITH SPECIAL REFERENCE TO THEIR GENERIC NOMENCLATURE.

BY ROBERT RIDGWAY.

IN 1806, Duméril established, in the "Zoologie Analytique" (p. 52), the genus *Sarcoramphus*, for the American Vultures in general, no special type being indicated; and in 1811, Illiger (Prodromus Systematis Mammalium et Avium, p. 236) proposed the name *Cathartes* for the same birds, the diagnoses in each case being so worded as to apply to the entire family, and not to any special type. Duméril named as his *Sarcoramphi*, "le condor, le papa, l'oricou, etc.," these being respectively *Vultur gryphus*, Linn., *V. papa*, Linn., and *V. auricularis*, Daud.,* while Illiger designated as examples of his genus *Cathartes* only *Vultur papa* and *V. aura*, in the order here given. It therefore appears that *Cathartes* of Illiger is essentially equivalent to *Sarcoramphus* of Duméril, so far as these two authors alone are concerned, and that these terms as used by them were clearly equivalent to the family *Sarcorham-*

* The last an Old World species not belonging to this family.

phidæ (= *Cathartidæ* of Huxley), and in the absence of any type cannot be referred to any particular genus. In Humboldt's "Voyage," however, five years later, Duméril designated the Condor (*S. gryphus*) as *Sarcoramphus catur*, which, in the absence of reasons to the contrary, may be considered equivalent to the author's limitation of his generic term to that species.

The only method, however, by which the types of *Sarcoramphus* and *Cathartes* can be settled upon, and the proper names for the other Sarcorhamphine genera thereby determined, is the "process of elimination." Applying this method, we find that, in 1816, Vieillot established two genera of this family: *Gypagus*, including *Vultur papa* and *V. gryphus* ("Roi des vautours, Buff. — *Vultur gryffus*, Lath."), and *Catharista*, with the *V. uruba*, Vieill. (= "*atrata*, Bartr."), as type. Now, *V. papa* and *V. gryphus* having been already included in Duméril's genus *Sarcoramphus*, *Gypagus* is obviously a pure synonym of that name. In 1842, however, Gloger established for *V. papa* the genus *Gyparchus*, so that, excepting *Gypagus*, which can only be regarded as a pure synonym of *Sarcoramphus*, we are able to designate a type for each of the species thus far mentioned: *Sarcoramphus*, with *gryphus* as type, by the elimination of *aura* (1811), *papa* (1842), and *uruba* (1816). The only generic type remaining is the *Vultur californianus*, Shaw, and for this no generic name appears to have been proposed prior to 1874, when the writer instituted *Pseudogryphus* for its special reception.

In instituting (in 1874) the name *Rhinogryphus* for a genus, including only *Vultur aura* and its congeners, I was misled by Mr. G. R. Gray's assumption that the type of *Cathartes*, Illiger, was *V. papa* (see "Hand-list," I, p. 3). Considering, as I then did, Mr. Gray's views on such points incontrovertible, I unfortunately deemed inquiry into the matter altogether unnecessary, and thus unwittingly added a synonym to a genus already provided with a name. Mr. Sharpe was evidently induced to propose, only a few months later, his name *Enops* for the same group for exactly the same reasons, since he makes *V. papa* the type of *Cathartes*, Illiger.

Admitting then, that, by applying the "process of elimination" for the determination of its type, the name *Cathartes* can be retained for the genus under consideration, — notwithstanding the fact that no type is indicated, and that the diagnosis applies to the family in general, while *V. papa* heads the list of species enumer-

ated, — I cheerfully withdraw all claim to recognition of the name substituted by me, under misapprehension of the facts involved, as above stated.

Following are the principal synonyms and references thereto of the several genera of *Sarcorhamphidae*, so far as I have been able to collate them.

(1.) **Sarcorhamphus**, DUMÉRIL.

< *Sarcoramphus*, DUM., Zool. Analyt., 1806, 32 (no type indicated; species enumerated are "le Condor, le Papa, l'Oricon," = respectively, *Vultur gryphus*, L., *V. papa*, L., and *V. auricularis*, Daud., the latter an Old World species, belonging to the family *Falconidae*).

= (?) *Sarcoramphus* DUM., Humboldt's Voy., 1811* (includes *S. cun-tur*, Dum. = *V. gryphus*, L.).

= *Sarcorhamphus*, AGASSIZ, Nom. Zool., 1847, —. — GRAY, Hand-l., I, 1869, 3, et Auct.

< *Gypagus*, VIEILL., Analyse, 1816, 21 (includes "Roi des Vantours, Buff." = *Vultur papa*, L., and " *Vultur gryffius*, Lath." = *V. gryphus*, L.); Enc. Méth., III, 1823, 1174 (includes *Vultur californianus*, Shaw, *V. gryphus*, L., and *V. papa*, L.).

< *Gryphus*, "IS. GEOFFR.," BONAP., Rev. et Mag. Zool., 1854, 530 (includes *V. gryphus* and *V. californianus*).

(2.) **Gyparchus**, GLOGER.

< *Sarcoramphus*, DUM., l.c.

= " *Sarcoramphus*, DUMÉRIL," Bonap., Rev. et Mag. Zool., 1854, 530 (restricted to *V. papa*, L.).

< *Gypagus*, VIEILL., ll. c.

< *Cathartes*, ILLIG., Prodr., 1811, 236 (no type; includes *Vultur papa*, L., and *V. aura*, L., in the order named; diagnosis that of the family).

= " *Cathartes*, ILLIG.," GRAY, Hand-l., I, 1869, 3. — SHARPE, Cat. Acc. Brit. Mus., I, 1874, 22.

= (?) " *Gyparchus*, GLOGER, Handb. Naturgesch., 1842, 235 " (type, *Vultur papa*, L. ?).

(3.) **Pseudogryphus**, RIDGWAY.

" *Vultur*," SHAW, Nat. Misc., IX, 1797, 1 (nec Linn.).

" *Cathartes*," RANZ., Elem. Orn., VII, 1823, 23, et Auct. (nec Illig.).

" *Sarcoramphus*," STEPH., Gen. Zoöl., XIII, ii, 1826, 6 (nec Duméril).

< " *Catharista*," GRAY, Hand-l., I, 1869, 3 (nec Vieill.).

= *Pseudogryphus*, RIDGW., in B. B. & R., Hist. N. Am. B., III, Jan., 1874, 338 (type, *Vultur californianus*, Shaw).

* These articles I have not been able to consult in connection with this paper.

< *Ænops*, SHARPE, Cat. Acc. Brit. Mus., I, June, 1874, 28.

< "*Gypagus*," VIEILL., Enc. Méth., III, 1823, 1173 (not of Analyse, 1816).

[The type of this genus is certainly quite as distinct generically from *Cathartes aura* as *Gyparchus papa* is from *Sarcorhamphus gryphus*, and much more so than *C. aura* is from *Catharista atrata*. Indeed, every part of its external, and many points of its internal structure, stamp it as one of the best marked generic types in the family. I am constrained to believe that authors who do not admit its distinctness as a genus have formed their opinion hastily, and without recourse to requisite material, although the skin alone is quite sufficient to show numerous radical differences from *C. aura*. In the enumeration of the diagnostic characters of this genus in "History of North American Birds" (Vol. III, pp. 337, 338), and illustrated, in part, on pages 355 and 356 of that work, a very important one was overlooked, viz. the possession of fourteen rectrices, in which "*Vultur*" *californianus* apparently differs from all other *Sarcorhamphidæ*. Since Mr. Sharpe bases a new genus (*Pseudogyps*) on such a character alone, he may now be willing to admit the validity of my genus *Pseudogryphus*.]

(4.) **Cathartes**, ILLIGER.

< *Vultur*, LINN.

< *Cathartes*, ILLIG., Prodr., 1811, 236 (no type; includes *Vultur papa*, L., and *V. aura*, L., in the order here given; diagnosis that of the family).

= *Cathartes*, BONAP., Rev. et Mag. Zool., 1854, 530 (*V. aura*, L., and *V. iota*, Mol., = *V. aura* ?). — SUNDEV., Öfv. Kongl. Vet.-Ak. Förh., 1874, 38 (restricted to *V. aura*).

< "*Catharista*," VIEILL., Analyse, 1816, 21. — GRAY, Hand-l., I, 1869, 3.

= *Rhinogryphus*, RIDGW., in B. B. & R., Hist. N. Am. B., III, Jan., 1874, 343 (type, *Vultur aura*, L.).

< *Ænops*, SHARPE, Cat. Acc. Brit. Mus., I, June, 1874, 25 (type, *Vultur aura*, L.; includes *Pseudogryphus*!).

(5.) **Catharista**, VIEILLOT.

< "*Vultur*," VIEILL., Ois. Am. Sept., I, 1807, 53 (nec Linn.).

< *Catharista*, VIEILL., Analyse, 1816, 21 (no type; includes "*Vautour urubu*" = *Vultur urubu*, Vieill., and *V. aura*, "Sonnini, édit. de Buffon").

= *Coragyps*, "GEOFFR.," BONAP., Rev. et Mag. Zool., 1854, 530 (includes *Vultur urubu*, Vieill., and *C. brasiliensis*, Bp.*).

= *Catharista*, RIDGW., in B. B. & R., Hist. N. Am. B., III, Jan., 1874, 350 (restricted to *C. atrata*, "Bartr.").

* Nec *Vultur brasiliensis*, Briss., = *Cathartes burrovianus*, Cass.!

= *Catharistes*, SHARPE, Cat. Acc. Brit. Mus., I, June, 1874, 23 (restricted to *C. atratus*, "Bartr.").

< "*Cathartes*," AUCT. (nec. Vieill.).

Sarcorhamphus æquatorialis, SHARPE? — In the vivarium at Central Park, New York City, I saw in December, 1878, a Condor of uniform brown plumage, which Mr. Conklin, the director of the Menagerie, informed me had been received July 23, 1875, and that it was three months old when captured. It was obtained on Mount Cauquenes, Chili, and was presented by Rear-Admiral Collins, U. S. N. The fact that this example had not yet, when nearly four years old, begun to assume the plumage of *S. gryphus*, proves conclusively either that the latter species retains the livery of the young until four or more years of age, or that there really is, as has been asserted by authors, a species of Condor among the Andes which has permanently a uniform brown plumage, something like that of *Gyps fulvus*.* The locality of this specimen would extend considerably the range of *S. æquatorialis*, Mr. Sharpe giving only Ecuador, and doubtfully Colombia, as the habitat of his species.

Sarcorhamphus gryphus. The National Museum possesses an adult male of this species from Bogota; at least, the specimen was in a collection received directly from that place, and shows the unmistakable "make" of "Bogota" skins. This Bogota Condor appears quite similar to Chilian examples in the collection, and is no smaller, the wing measuring 33 inches from the carpal joint to the end of the longest primary.

* Since the above was written, Mr. Conklin has favored me with the following particulars, under date of Feb. 10, 1880, in response to my inquiry as to the present condition of this specimen: "The plumage remains still unchanged except that the ruff about the neck is somewhat fuller, and has a little sprinkle of white through the down. . . . It has not increased much since then [July 23, 1875, the time when received at the Menagerie,] either in size or weight. The bill is black at the base, the apical half ivory-white. Head bare, no wattles; iris dark brown."

Mr. Lawrence has also favored me with the following transcript from his note-book:—April 1, 1876. "Condor, said to be 9 months old, bill black; cere and naked sides of head grayish-black; head sparsely covered with short downy feathers of a smoky black; plumage in general of a dark snuff-brown."

August, 1877. "No change except the development of the ruff, which is colored like the back."

"The ruff is now [Feb. 23, 1880] more full, but no appearance of becoming white; underneath the feathers are whitish."

Pseudogryphus californianus. This species appears to have become excessively rare in California, having been nearly, if not quite, exterminated in many parts of the State, through the agency of poisoned carcasses exposed for the destruction of bears and wolves (*cf.* Henshaw, Ann. Rep. Geog. Surv. W. 100th Merid., 1876, p. 265). It may not, perhaps, be generally known, — at least the fact has been almost wholly overlooked by authors, — that this species is fully the peer of the Condor in size, the length of the wing and tail averaging even decidedly greater. It is not, however, quite so strongly built, the beak and feet being proportionately weaker. Apropos of the wide disagreement of authors as to the alar expanse of the Condor, I have been led to try a very simple method of determining what *should* be the stretch of wing in that species and *P. californianus*, with a result which is undoubtedly approximately correct. This method is based upon measurements of the wing bones of these two species and *Cathartes aura*, and the application of the “Rule of Three,” as follows.

The maximum length of wing in *C. aura* is 23 inches, the humerus measuring 6.00 inches, and the ulna and radius 7.25 inches, making the total length of one outstretched wing 36.25 inches. The maximum alar expanse of this species is 6 feet, or 72 inches. In *S. gryphus* and *P. californianus* the maximum total length of wing is 55.50 and 58.25 inches, respectively. Therefore, assuming that the primaries have about the same proportionate length in the three species, we have, by applying the aforesaid rule, the following result:—

Sarcorhamphus gryphus (length of outstretched wing, 55.50 inches).

$$36.25 : 72 :: 55.50 : 110.23 = 9 \text{ feet } 2 \text{ inches.}$$

Pseudogryphus californianus (length of outstretched wing, 58.25 in.).

$$36.25 : 72 :: 58.25 : 115.65 = 9 \text{ feet } 8 \text{ inches.}$$

Allowing for individual variation in both species, the average alar expanse of each may be set down at about 9 feet, *P. californianus*, at least, perhaps sometimes reaching 10 feet, while it is quite certain that the largest individuals of either would not much exceed, if indeed they reach, an extent of 10½ feet.

For sake of comparison I give below measurements of certain bones of *S. gryphus*, *P. californianus*, and *C. aura*, taken from fully adult examples of each.

	<i>S. gryphus.</i>	<i>P. californianus.</i>	<i>C. aura.</i>
Humerus	10.50	10.75	6.00
Ulna and radius	12.00	12.50	7.25
Femur	5.75	5.25	
Tibia	8.60	8.75	
Tarsus	4.75	4.50	
Head	5.90	6.75	
Wing from carpal joint	33.00	35.00	23.00

Cathartes burrovianus, CASS. — Recent authorities * having almost uniformly ignored the claims of this bird to specific rank, I have, in the absence of any opportunity to examine the type specimen in the Museum of the Philadelphia Academy, carefully read Mr. Cassin's original description in order to satisfy myself whether we are justified in the suspicion that Mr. Cassin's supposed species was based on a small specimen of *C. aura*. Upon reading Mr. Cassin's description I was surprised to find how well and unmistakably it applied to the bird usually called "*C. urubitinga*, Pelz.," in every particular. In the description, as quoted below, I have italicized the phrases which are strictly and peculiarly diagnostic of *C. "urubitinga,"* in order to show at a glance how certain it is that Cassin's *C. burrovianus* is the same bird. The only question, it appears to me, can be as to the locality, which may be erroneous, since *C. urubitinga* is not known to occur anywhere out of Eastern South America, though the evidence to this effect, it should be remembered, is purely negative.

The earliest notice of this species is that of Brisson (1760), the *Vultur brasiliensis* of this author being unquestionably the same species, as his full and very accurate description clearly shows. Therefore it is quite possible that some author may have applied the name *brasiliensis* to the species under consideration before Mr. Cassin's name *burrovianus* was bestowed upon it; in which event the proper specific term would be *brasiliensis*, and not *burrovianus*. I cannot find, however, that such use of Brisson's name has been made. It is altogether probable that *burrovianus* will stand.

Mr. Cassin's description (Pr. Philad. Acad., March, 1845, p. 212) is as follows: —

"Head naked, smooth, with the nostrils large and oval; plumage of the body *entirely black*, with a greenish-blue gloss, paler beneath; *the feathers*

* Conf. ELLIOT, Illustr. Am. B., II, 1866; ALLEN, Bull. Mus. Comp. Zool., II, 1871, p. 311; SHARPE, Cat. Acc. Brit. Mus., I, 1874, p. 28; GURNEY, The Ibis, 1875, p. 94.

extend upwards on the back of the neck; a small bare space on the breast. Wings long, the quills and tail-feathers black, with the shafts of the primaries white and conspicuous; third primary longest. The smallest American Vulture known.

"Total length (of skin) 22 inches, bill $2\frac{1}{2}$, wing 18, tail $8\frac{1}{2}$.

"*Hab.* — Near Vera Cruz.

"This species resembles *C. aura*, Linn., in the shape of the bill and nostrils, and in having the tail rounded, but differs from it not only in size, but the feathers extend upwards on the back of the neck and lie flat instead of forming a ruff; the plumage of the specimen now described is black, none of the feathers having pale margins, as is commonly the case in specimens of *C. aura*; the shafts of the primaries are clear white, and the head is more entirely destitute of downy feathers. The tarsi are longer and more slender.

"The head of *C. burrovianus* is quite smooth, in which, as in other respects, it is very different from *C. atratus*, Wilson.

"This new species was obtained in the vicinity of Vera Cruz, by the late M. Burrough, M. D., in honor of whom I have named it, as a slight acknowledgment for his very valuable services to natural history, and to this Academy."

Cathartes pernigra, SHARPE. — A specimen of this species is in the Maximilian collection, at the American Museum, New York. It appears quite distinct from both *C. aura* and *C. burrovianus*, being, in fact, somewhat intermediate between the two. In size it is nearly, if not quite, equal to *C. aura*, and, like the latter, has the nape entirely bare of feathers, the plumage commencing abruptly about half-way down the neck. The shafts of the primaries are a lighter brown than in *C. aura*, but not so white as in *burrovianus*. In regard to the plumage, however, there is a much closer resemblance to *C. burrovianus*, the back and wings being wholly black, like the lower parts, without a trace of the light-brownish borders to the feathers, so conspicuous in *aura*. The black is also much less glossy than in the latter.

The specimen (male) is, unfortunately, not quite adult, the bill being partly blackish, and the nape covered with a soft dusky down. The measurements are as follows: wing, 20.00; tail, 12.00; culmen (chord of the arch), .85; tarsus, 2.50; middle toe, 2.40.

The bill and feet appear more slender than those of *C. aura*.

ON RECENT ADDITIONS TO THE ORNITHOLOGICAL FAUNA OF NORTH AMERICA.*

BY J. A. ALLEN.

THE additions to the list of species and varieties of North American birds made within the last few years have been so numerous, and their places of record are, moreover, so widely scattered, that I have found it desirable to prepare for my own convenience a list of such additions, together with reference to their places of record and localities of capture. Believing that such a list would prove useful to others, it is here presented. These additions may be divided into three classes:—(1) Southern species recently detected near our southern boundary, due mainly to recent explorations by (*a*) Mr. H. W. Henshaw in Arizona, and (*b*) Dr. J. C. Merrill and Mr. George B. Sennett in the valley of the Lower Rio Grande in Texas; (2) Asiatic or Old World species detected in Alaska and the Arctic regions by Mr. H. M. Turner and others; (3) recently distinguished varieties. These additions number 28 species and 10 varieties, all added since 1874.

RETROSPECTIVE.

In the present connection it seems desirable to compare briefly and in a general way the present status of North American ornithology with its condition when Baird, Cassin, and Lawrence's great work on North American Birds was published, in 1858. In this work 738 species were described, but of these 22 were explicitly stated to be extra-limital (tom. cit., p. lvi), leaving 716 as found north of the present northern boundary of Mexico.† On collating the Land Birds described in this work, numbering 478 species

* By North America is here meant only that portion of the North American continent north of Mexico.

† It should be stated that reference is here made to the "List of Species" given in Baird's "Report" of 1858 (Introduction, pp. xv–lvi), and not to the same author's "Catalogue of North American Birds," published in 1859, commonly known as the "Smithsonian Check-List." In the latter are formally included one or two species and several varieties not given in the former, although they are nearly all mentioned provisionally or informally in the text of the "Report."

(including 19 extra-limital ones) and 2 varieties, with those of Baird, Brewer, and Ridgway's "History of North American Birds," published in 1874, it appears that of these 480 names 16 were treated as synonyms, 28 as extra-limital, and 71 were reduced to the rank of subspecies or races, leaving as North American 365 species and 71 varieties, — a reduction of 44 from the number given by Baird and Cassin.

A comparison of the Water Birds given by Baird, Cassin, and Lawrence with those in Dr. Coues's "Check List of North American Birds," published in 1874 (based on the same author's "Key," — the only general work on our Water Birds since 1858, — of two years' earlier date, but containing some additions), shows a somewhat smaller ratio of change in respect to these species. In Baird's "Report" of 1858 were recognized 260 species and 1 variety, 3 of the species being given as extra-limital, while Coues admitted 247 species and 15 additional varieties, or 262 in all, — one more than the number given by Baird, Cassin, and Lawrence. Despite this seeming agreement, 19 of the species admitted by Baird, Cassin, and Lawrence are treated by Coues as synonyms, 6 are regarded as extra-limital, and 13 are reduced to varieties, the reduction in the number of recognized forms being made up by the addition of about 40 species and varieties not given by the former authors. Taking into account both the Land Birds and the Water Birds of the two works in question, and making due allowance for extra-limital species and synonyms, there is found to be an actual increase of 67 recognized forms. It should be added, however, that 8 species are given by Dr. Coues as doubtfully entitled to that rank, and 16 varieties as questionably worthy of recognition.

Passing to a comparison of the two latest general works on North American Birds — the "History of North American Birds" by Baird, Brewer, and Ridgway, and Coues's "Check List," both published in 1874, — it may be of interest to notice the treatment respectively adopted so far as the two works cover common ground, namely, the Land Birds. A pretty careful collation gives the following results :

B., B., and R., Land Birds,	species, 408 ;	varieties, 124 ;	total, 532.
Coues,	Land Birds,	species, 399 ;	varieties, 110 ;
		total, 509.	

In respect to the difference here apparent, it may be noted that 16 species appear in Baird, Brewer, and Ridgway's work, which are omitted in Coues's "Check List" ; several of them were treated by the latter in his "Key" as either nominal, mythical, or too little

known for recognition; the others are simply European stragglers that have once or twice occurred in Greenland. On the other hand, 6 species are given by Cones that are omitted by Baird, Brewer, and Ridgway, in nearly every case from their being considered by the latter as extra-limital. These authors, therefore, substantially agree in regard to the number of species admitted in both works as properly North American, the only difference being in respect to the status of 9 species, 5 forms treated as species by Baird, Brewer, and Ridgway being allotted varietal rank by Cones, while, on the other hand, 4 of Cones's species are similarly treated by Baird, Brewer, and Ridgway. In regard to "varieties" the disagreement is somewhat greater, there being 23 in Baird, Brewer, and Ridgway's work not given by Cones, while 7 are admitted by the latter that are not included by the former. It thus appears that Baird, Brewer, and Ridgway admit 9 more species and 14 more varieties of Land Birds than are recognized by Dr. Cones.

In concluding this hasty retrospect it may be observed that the change in the status of the general subject from 1858 to 1874 consists in the reduction to synonyms of a comparatively small number of species admitted in 1858; the exclusion of a rather larger number as extra-limital, and the treatment of about one sixth of the remainder as subspecies or "varieties." The change is thus mainly one of nomenclature, due to the better understanding of the relationships of closely allied forms, made more clearly evident by the increase of material for their investigation.

The species of Land Birds wholly cancelled or reduced to synonyms are the following, the numbers being those designating the species in Baird's "List" of 1858.

6. <i>Falco nigriceps</i> .	215. <i>Myiodioetes bonapartii</i> .
19. <i>Buteo bairdi</i> .	259. ? <i>Harporhynchus retula</i> .
24. <i>Buteo montanus</i> .	272. <i>Troglodytes americanus</i> .
30. <i>Archibuteo lagopus</i> .*	291. <i>Parus occidentalis</i> .
41. <i>Haliaeetus washingtoni</i> .	329. <i>Plectrophanes melanomus</i> .
56. <i>Nyctale albifrons</i> .	351. <i>Junco dorsalis</i> .
59. <i>Athene cunicularia</i> .*	424. <i>Corvus cacalotl</i> .
66. <i>Crotophaga rugirostris</i> .	440. <i>Cyanocitta sordida</i> .
88. <i>Sphyrapicus williamsoni</i> .	470. <i>Lagopus americanus</i> .
98a. <i>Colaptes hybridus</i> .	

* As regards their being North American in the sense in which they were then recognized as such.

The following species of Water Birds were treated as synonyms by Dr. Coues in 1874 : —

480. <i>Grus fraterculus</i> .	673. <i>Rissa septentrionalis</i> .
482. <i>Demigretta pealii</i> .	675. <i>Rissa naevia</i> .
486*. <i>Herodias egretta</i> var. <i>californica</i> .	677. <i>Pagophila brachytarsi</i> .
525. <i>Macrorhamphus scolapaceus</i> .	686. <i>Sterna havelli</i> .
566. <i>Anser frontalis</i> .	707. <i>Podiceps californicus</i> .
605. <i>Edemia bimaculata</i> .	718. <i>Cerorhina suckleyi</i> .
659. <i>Larus chalcopterus</i> .	720. <i>Phaleris tetracula</i> .
665. <i>Larus suckleyi</i> .	722. <i>Phaleris microceros</i> .
669. <i>Chroicocephalus cucullatus</i> .	730. <i>Uria ringvia</i> .
	733. <i>Brachyrhamphus wrangeli</i> .

The following species of Land Birds were treated as extra-limital by Baird, Brewer, and Ridgway in 1874. Those to which a star is prefixed were originally given as extra-limital in 1858. Two others (*Psaltiriparus melanotis*, *Carpodacus haemorrhous*) were given as extra-limital that were not so treated in 1874.

4. * <i>Cathartes burrovianus</i> .	219. * <i>Setophaga miniata</i> .
40. <i>Haliaëtus pelagicus</i> .	224. * <i>Enphonia elegantissima</i> .
64. * <i>Rhynchopsitta pachyrhyncha</i> .	241. <i>Vireo flavoviridis</i> .
65. <i>Trogon mexicanus</i> .	292. * <i>Parus meridionalis</i> .
73. * <i>Champephilus imperialis</i> .	310. <i>Chrysomitris magellanicus</i> .
100. <i>Lampornis mango</i> .	311. <i>Chrysomitris stanleyi</i> .
119. <i>Momotus caeruleiceps</i> .	312. <i>Chrysomitris yarrelli</i> .
120. <i>Pachyrhamphus aglaïæ</i> .	324. <i>Leucosticte aretous</i> .
121. <i>Bathmidurus major</i> .	350. * <i>Junco cinereus</i> .
129. * <i>Tyrannus melancholicus</i> .	383. <i>Cyanospiza parallina</i> .
132. * <i>Myiarchus cooperi</i> .	405. * <i>Trupialis militaris</i> .
133. <i>Myiarchus lawrencii</i> .	410. * <i>Icterus melanocephalus</i> .
171. * <i>Geothlypis velatus</i> .	412. <i>Icterus wagleri</i> .
216. * <i>Cardellina rubra</i> .	

Dr. Coues in 1872 gave the following species of Water Birds as extra-limital : —

494. <i>Butorides brunnescens</i> .	630. <i>Diomedea exulans</i> .
514. *? <i>Hæmatopus ater</i> .	632. <i>Diomedea chlororhyncha</i> .
614. <i>Mergellus albellus</i> .	671. <i>Chroicocephalus minutus</i> .

RECENT ADDITIONS.

The species and varieties given below include none recorded either in Dr. Coues's "Check List" or in Baird, Brewer, and Ridgway's "History of North American Birds."

1. **Turdus migratorius propinquus**, *Ridg.* var. nov. Bull. Nutt. Orn. Club, II, Jan., 1877, 9. Rocky Mountains and westward.
2. **Parus cinctus**, *Bodd.* SIBERIAN TITMOUSE. — Ridgway, Bull. Nutt. Orn. Club, III, Jan., 1878, 37. St. Michael's, Norton Sound, Alaska (*Turner*).
3. **Parus rufescens neglectus**, *Ridg.* var. nov. CHESTNUT-BACKED TIT. — Bull. U. S. Nat. Mus., I, 1878, 485. "Coast of California."
4. **Thryothorus ludovicianus miamensis**, *Ridg.* var. nov. FLORIDA WREN. — Am. Nat. IX, 1875, 469. The large dark Florida form of the Carolina Wren.
5. **Parula nigrilora**, *Coues*, sp. nov. SENNETT'S WARBLER. — Bull. U. S. Geol. Surv. Terr. IV, 1878, 11. Hidalgo, Texas (*Sennett*).
6. **Helminthophaga leucobronchialis**, *Brewster*, sp. nov. WHITE-THROATED WARBLER. — Am. Sportsman, V, 33, Oct. 17, 1874; Bull. Nutt. Orn. Club, I, 1876, 1, plate. Massachusetts.
7. **Helminthophaga lawrencii**, *Herrick*, sp. nov. LAWRENCE'S WARBLER. — Proc. Acad. Nat. Sci. Phila., 1874, 220, pl. xv. New Jersey.
8. **Peucedramus olivaceus** (*Giraud*) *Coues*. OLIVE WARBLER. — *Dendroeca olivacea*, Henshaw, Amer. Sportsman, V, 328, Feb. 20, 1875. Mountains of Southern Arizona (*Henshaw*). Originally described by Giraud in 1841 from "Texas," but by later writers regarded as extra-limital till its recent discovery by Mr. Henshaw in Arizona.
9. **Dendroeca palmarum hypochrysea**, *Ridg.* var. nov. RED-POLL WARBLER. — Bull. Nutt. Orn. Club, I, July, 1876, 84. Atlantic States.
10. **Cardellina rubrifrons** (*Giraud*) *Scl.* RED-FACED WARBLER. — Henshaw, Ann. Rep. of Engineers for 1875, App. LL, 156, 1875. Southern Arizona (*Henshaw*). Originally described by Giraud, in 1841, as from "Texas," but not previously confirmed as a member of our fauna, and for many years has been treated as extra-limital.
11. **Vireo flavoviridis**, *Cass.* YELLOW-GREEN VIREO. — Brewer, Bull. Nutt. Orn. Club, III, July, 1878, 152. Fort Brown, Texas (*Merrill*).
12. **Junco cinereus** (*Sicain.*) *Cab.* MEXICAN SNOW BIRD. — Henshaw, Rep. Geogr. and Geol. Surv. West of 100th Merid., V, 1875, 271. Mountains of Southern Arizona; abundant (*Henshaw*).
13. **Ammodramus caudacutus nelsoni**, *Allen*, var. nov. NELSON'S SHARP-TAILED FINCH. — Proc. Bost. Soc. Nat. Hist., XVII, March, 1875, 93. Calumet Marshes, Northern Illinois (*Nelson*).
14. **Peucea ruficeps boucardi** (*Scl.*) *Henshaw*. MEXICAN RUFOUS-CROWNED SPARROW. — Henshaw, Rep. Orn. Spec. Wheeler's Exp. 1874, 117. Southern Arizona and Southern New Mexico (*Henshaw*).
15. **Peucea æstivalis illinoensis**, *Ridg.* var. nov. OAK-WOODS SPARROW. — Bull. Nutt. Orn. Club, IV, Oct., 1879, 218; *ibid.*, V, Jan., 1880, 52. Semi-prairie region from Central Texas (*Ragsdale*) to Southern Illinois (*Ridgway*).

16. *Molothrus æneus* (Wagler) Cab. BRONZED COWBIRD. — Merrill, Bull. Nutt. Orn. Club, I, July, 1876, 88. Fort Brown, Texas (Merrill).

17. *Sturnella magna mexicana* (Scl.) Coues. MEXICAN MEADOW LARK. — Brewer, Bull. Nutt. Orn. Club, III, July, 1878, 152. Fort Brown, Texas (Merrill).

18. *Myiarchus crinitus erythrocerus* (Scl. and Salv.) Coues. TEXAS GREAT-CRESTED FLYCATCHER. — Coues and Sennett, Bull. U. S. Geol. Surv. Terr., IV, Feb. 1878, 32; Merrill, Bull. Nut. Orn. Club, III, Apr., 1878, 99; *Myiarchus erythrocerus cooperi*, Ridg. and Merrill, Proc. U. S. Nat. Mus., I, 1878, 138. Fort Brown (Merrill) and Hidalgo (Sennett), Texas.

19. *Pitangus derbyanus* (Kaup) Scl. RIO GRANDE FLYCATCHER. — Coues. The Country, July 13, 1878, 184. Lomita, Texas (Sennett).

20. *Myiodynastes luteiventris*, Bon. YELLOW-BELLIED FLYCATCHER. Henshaw, Rep. Geog. and Geol. Surv. West of 100th Merid., V, 1875, 346. Mountains of Southern Arizona (Henshaw).

21. *Ornithion imberbe* (Scl). BEARDLESS FLYCATCHER. — *O. incanescens*, Coues, The Country, July 13, 1878, 184. Lomita, Texas (Sennett).

22. *Nyctidromus albicollis* (Gm.) Burm. PAURAQUE GOATSUCKER. Merrill, Bull. Nutt. Orn. Club, I, Nov., 1876, 88. Vicinity of Fort Brown, Texas (Merrill).

23. *Iache latirostris* (Sw.) Elliot. CIRCE HUMMING-BIRD. — *Circe latirostris*, Henshaw, Am. Sportsman, V, 328, Feb. 20, 1875. Chiracahua Mountains, Southern Arizona (Henshaw).

24. *Calothorax lucifer*, Gray. LUCIFER HUMMING-BIRD. — *Doricha enicura*, Henshaw, Am. Sportsman, V, 328, Feb. 20, 1875 (erroneously identified); *Calothorax lucifer*, Lawrence, Bull. Nutt. Orn. Club, II, 1877, 108, Oct. 1877. Camp Bowie, Arizona (Henshaw).

25. *Amazilia cerviniventris*, Gould. RUFOUS-BELLIED HUMMING-BIRD. Merrill, Bull. Nutt. Orn. Club, 11, Jan., 1877, 26. Fort Brown, Texas (Merrill).

26. *Amazilia fuscicaudata* (Fraz.) Ridg. RIEFFER'S HUMMING-BIRD. — "*Pyrrophæna riefferi*, Bourc.," Merrill, Bull. Nut. Orn. Club, I, Oct., 1876, 88. Fort Brown, Texas (Merrill).

27. *Crotophaga sulcirostris*, Swain. MEXICAN ANI. — Coues, The Country, July 13, 1878, 184. Lomita, Texas (Sennett).

28. *Picus stricklandi*, Malh. STRICKLAND'S WOODPECKER. — Henshaw, Am. Sportsman, V, 328, Feb. 20, 1875. Southern Arizona (Henshaw).

29. *Scops asio maxwelliæ*, Ridg. var. nov. MRS. MAXWELL'S OWL. — Field and Forest, II, June, 1877, 213. Colorado (Mrs. Maxwell).

NOTE. — The "*Scops asio* var. *enano*, 'Lawr.,' Ridg.," Mr. Ridgway has recently decided to be the *Scops maccalli* of Cassin, and should therefore stand as *Scops asio maccalli*. (Cf. Ridgway, Proc. U. S.

Nat. Mus., I, 109–111; Coues, Bull. U. S. Geol. and Geogr. Surv. Terr., V, No. 3, 417.)

30. *Strix lapponica*, Retz. LAPLAND GRAY OWL.—*Syrnium lapponicum*, Ridg., Bull. Nutt. Orn. Club, III, Jan. 1878, 37. St. Michael's, Norton Sound, Alaska (*L. M. Turner*).

31. *Surnia ulula* (Linn.) Bon. EUROPEAN HAWK-OWL.—Ridgway, Bull. Nutt. Orn. Club, III, Jan., 1878, 38. St. Michael's, Norton Sound, Alaska (*L. M. Turner*). See Brewer, Bull. Nutt. Orn. Club, II, July, 1877, 78. for a prior record (Houlton, Maine, *Welch*).

32. *Buteo albocaudatus* (Vieill.). WHITE-TAILED BUZZARD.—Coues, The Country, I, 184, July 13, 1878; Brewer, *ibid.* Lomita (*Sennett*) and Brownsville (*Merrill*), Texas.

33. *Urubitinga anthracina*, Nitzsch. ANTHRACITE HAWK.—Henshaw, Am. Sportsman, V, 328, Feb. 20, 1875. Arizona (*Henshaw*).

34. *Ægialitis hiaticula* (Linn.) Boie. RINGED PLOVER.—Feilden, Ibis, 1877, 406. Buchanan Strait, latitude 78° 48' N. (*Feilden*).

35. *Totanus ochropus* (Linn.) Temm. GREEN SANDPIPER.—Brewer, Bull. Nutt. Orn. Club, III, Jan., 1878, 49. Nova Scotia (apud *Harting*).

36. *Parra gymnostoma*, Wagler. MEXICAN JACANA.—Merrill, Bull. Nutt. Orn. Club, I, Nov., 1876, 88. Vicinity of Fort Brown, Texas (*Merrill*).

37. *Larus canus*, Linn. COMMON EUROPEAN GULL.—Brewer, Bull. Nutt. Orn. Club, III, Jan. 1878, 50. Labrador (fide *Saunders*).

38. *Podiceps dominicus*, Lath. SAN DOMINGO GREBE.—Merrill, Bull. Nutt. Orn. Club, I, Nov., 1876, 88. Fort Brown, Texas (*Merrill*).

NOTE.—As it has not seemed advisable to cite in full in the foregoing list all the references relating to the occurrence of the species added by Dr. Merrill and Mr. Sennett, it may be stated that full synonymy and detailed descriptions of the Rio Grande birds added by these gentlemen may be found in the following papers:—

1. Notes on the Ornithology of the Lower Rio Grande of Texas, from Observations made during the Season of 1877. By George B. Sennett. Edited, with Annotations, by Dr. Elliott Coues, U. S. A., Bull. U. S. Geol. Surv. Terr., Vol. IV, pp. 1–66, February 5, 1878.

2. Further Notes on the Ornithology of the Lower Rio Grande of Texas, from Observations made during the Spring of 1878. By the same. Bull. U. S. Geol. Surv. Terr., Vol. V, pp. 371–440, November 30, 1879.

3. Notes on the Ornithology of Southern Texas, being a List of Birds observed in the Vicinity of Fort Brown, Texas, from February, 1876, to June, 1878. By Dr. James C. Merrill, Assist. Surg. U. S. A. [With Annotations by Robert Ridgway and Dr. T. M. Brewer.] Proc. U. S. Nat. Mus., Vol. I, 1878, pp. 118–173.

For a fuller record of Mr. Henshaw's additions, which were first reported in the "American Sportsman," see Rep. Geog. and Geol. Sur. West of 100th Merid., Vol. V, Zoölogy, Chap. III.

The following new genera have been proposed for North American Birds since 1874:—

1. **Peucedramus**, *Coues*, apud Henshaw, Rep. Geog. and Geol. Expl. W. 100th Merid., V, 1875, 202. Type *Sylvia olivacea*, Giraud.

2. **Iridoprocne**, *Coues*. Birds Col. Vall., 1878, 412 (subgenus); Bull. U. S. Geol. and Geogr. Surv., V, Feb., 1879, 74, foot-note (genus).

3. **Amphispiza**, *Coues*. Birds of the Northwest, 1876, 234. — Type, *Emberiza biliniata*, Cass.

4. **Æchmoptila**, *Coues*. Bull. U. S. Geol. and Geogr. Surv. Terr., IV, Feb., 1878, 48 (= *Leptoptila*, Swain., 1837, not of Lesson, 1831). — Type, *Æ. jamaicensis* (Linn.). *Æchmoptila*, however, Dr. Coues now decides must give place to *Engyptila*, Sand. (see below, p. 100).

DESCRIPTION OF THE ADULT PLUMAGE OF *HIEROFALCO* *GYRFALCO OBSOLETUS*.*

BY ROBERT RIDGWAY.

HAVING been permitted, through the kindness of Mr. Vennor, to examine the specimens described in "Our Birds of Prey," † under the title of "*Falco sacer*, Forst.," one of which is the type of "*Falco dawsonis*," Hall, together with a third example, obtained subsequent to the publication of the above-named work, these descriptions are presented as being of probable interest from the fact that no

* *Hierofalco gyrfalco obsoletus*.

Falco obsoletus, Gmel., S. N., I, ii, 1788, 268 (based on *Plain Falcon*, Pennant, Arct. Zoöl., II, 1781, p. 208.

Falco labradora, Aud., B. Am., 1831, pl. exevi.

Falco gyrfalco var. *labradora*, Ridgw., in B. B. & R., Hist. N. Am. B., III, 1874, 117.

Falco dawsonis, Hall, Canadian Naturalist and Geologist, VII, 1862, p. 68.

"*Falco sacer*, Forst.," Vennor, Our Birds of Prey, 1876, 23, pl. iv (nec Forst. 1772).

† Our Birds of Prey, or the Eagles, Hawks, and Owls of Canada. By Henry G. Vennor, F. G. S., of the Geological Survey of Canada. With 30 Photographic Illustrations by William Notman. R. Worthington, 750 Broadway, New York. Montreal: Published by Dawson Brothers, 1876. Royal 8vo, pp. i–viii, 1–154, pll. xxx.

detailed description of the perfect adult dress of this dark form of the Gyrfalcons has, to my knowledge, been published.

Adult ♂. — Above continuous plumbeous-slate, interrupted by a somewhat V-shaped patch of pale buff, or buffy white, longitudinal markings on the nape; the head perfectly uniform, the feathers of the dorsal-region and wings showing paler borders and transverse spots, there being about one pair (one on each web) of the latter on the exposed portion of each feather; remiges and primary coverts plumbeous-slate, without any spots, but with paler edges. Rump and upper tail-coverts more bluish than the back, and with distinct transverse spots and bars of light bluish-plumbeous, these bars regular and sharply defined on the upper tail-coverts, where they average, like the darker ones, about .25 of an inch in width; the shafts of these feathers conspicuously darker than the ground-color. Tail similar in colors and markings to the upper coverts, there being about eight or nine bands on that portion of the tail not concealed by the coverts; the light bars more or less mottled, finely, with darker; tip of the tail, rather narrowly, whitish. Ground-color of the lower parts creamy white, or pale cream-color, changing to light plumbeous on the thighs and anal region, the crissum tinged with the same. Chin and throat washed with grayish, and streaked (not sharply) with dusky; whole jugulum and breast thickly marked with sharply defined longitudinal stripes of blackish slate, these markings gradually assuming on the abdomen the form of tear-shaped and oval spots; flanks with wide transverse spots of blackish slate, some of the spots more or less cordate; tibial plumes thickly barred with transverse, somewhat cordate spots of deep plumbeous, the shafts conspicuously blackish; anal region similarly but more densely marked; lower tail-coverts very regularly barred with deep plumbeous, the bars sharply defined, somewhat crescentic, and about .30 of an inch in width, or a little narrower than the lighter ones. Lining of the wing irregularly spotted with dark slate and pale cream-color, in nearly equal proportion; under surface of the quills silvery plumbeous, faintly and irregularly mottled with pale creamy, but not showing any tendency to form transverse or ovate spots. Wing, 14.00 ~ 14.40; tail, 8.40 ~ 9.00; culmen, .90; tarsus, 2.25 ~ 2.35 (bare portion about .80); middle toe, 1.90.

Adult ♀. — Much darker than the ♂, and of a more sooty shade. No trace of the light nuchal markings; spots of the back, etc., smaller and more scattered; rump and upper tail-coverts slaty-plumbeous (about like the back of the ♂), the former with small scattered spots, the latter with narrow bars of light grayish or dirty whitish. Tail brownish slate, narrowly tipped with whitish, and marked with incomplete or interrupted narrow bands of light mottled grayish; none of these bars, except the subterminal ones, reach the shaft; they are narrower and wider apart than those of the ♂, about eight showing beyond the upper coverts on the middle rectrices. Chin and throat as in the ♂, but remaining lower

parts with dark brownish slate largely predominating, the creamy white forming longitudinal stripes on the middle of the breast and abdomen, smaller, irregular spots on the sides of the breast, large, transverse, oblong spots (forming interrupted bands) on the flanks, and regular, sharply defined, transverse bands on the crissum; anal region nearly uniform dusky. Axillars and lining of the wing dark brownish slate, marked with roundish spots of pale cream-color; under surface of the primaries and tail silvery slate, with indications of bars, in the form of transverse, oblong spots, of mottled pale grayish. Wing, 16.25; tail, 9.25; culmen, 1.00; tarsus, 2.50 (bare portion, .90); middle toe, 2.10.

The Labrador Gyrfalcons represents the darkest phase of the *Falco gyrfalco* of Linnæus, or the opposite extreme of color-variation from the white race known as *F. candicans*, Gmel. It may, in most cases, be readily distinguished from the race of the same species inhabiting the interior districts of British America and the Arctic coast, by the darker and much more uniform colors, with dusky largely prevailing on the lower parts, in both old and young. To the more northern form the name *sacer*, Forster, unquestionably belongs, every point of Forster's diagnosis applying unmistakably to it, even the yellow irides, since it appears, if we may trust the word of collectors, that the Arctic American Gyrfalcons not unfrequently does have the eyes yellow! Forster having applied the name *sacer* to this species in 1772, it follows that this term cannot be used for the Old World species usually thus designated (*Falco sacer*, Gmel., S. N. I. ii, 1788, 273, based on *Le sacre* of Brisson and Buffon), for which the name *lunarius*, Pall. (Zoog. Rosso-As., I, 1831, 330), next in order of date, appears to be the proper appellation.

As to the claims of this Arctic American form to recognition as a definable race, a few words may not be out of place here. In "History of North American Birds," Vol. III, p. 117, I stated that the var. *sacer*, as there restricted, was nearly intermediate in its characters between var. *islandicus* and var. *gyrfalco*, some specimens approaching very closely to either form. Previous to this statement, however, Professor Newton concluded that specimens from Arctic America sent to him for examination could not be distinguished from true *islandicus*. The fact that Mr. Dresser has subsequently (P. Z. S., 1875, pp. 114-117) insisted on the identity of the same specimens with var. *gyrfalco*, is a somewhat curious circumstance, and tends in a measure to confirm the opinion which I expressed of the intermediate character of the birds in question.

Numerous specimens received at the National Museum from various localities since the publication of "History of North American Birds," demonstrate the very wide range of individual variation of all the forms, from whatsoever locality they may come. Thus, in a series of twelve examples received in *one consignment* from Godhavn, South Greenland, almost every shade from typical *candicans* to very dark *islandicus* is represented, *no two individuals being very closely similar in coloration.*

NOTES AND QUERIES CONCERNING THE NOMENCLATURE OF NORTH AMERICAN BIRDS.

BY DR. ELLIOTT COUES, U. S. A.

CONTINUED inquiry in this direction has made it apparent that not a few of the names now in current use for North American Birds require to be changed, conformably with generally recognized rules of nomenclature. I have brought together here a number of memoranda made at various times. Some of the changes here proposed are merely verbal, in the forms of words amended according to their etymology. Others result from the following considerations:—I. That Brisson's genera are tenable. II. That use in botany does not preclude use in zoölogy. III. That Linnæus is to be taken at 1758. IV. That the generic and specific name shall never be the same. V. That the type of a Linnæan genus is to be determined according to the principle recently laid down by Newton. VI. That we shall not go back for genera beyond the establishment of the binomial system.

The numbers are those of my "Check-list," 1873.

20. **Phylloscopus borealis** (*Blas.*). According to Mr. Seebohm, who has paid special attention to the Warblers, the *Phyllopneuste kennicottii* of Baird is *P. borealis*, and the proper name for the genus is *Phylloscopus*. The above name is adopted by Dresser, B. Eur., Pts. LXIX, LXX, Aug., 1878.

101. **Wilsonia mitrata** (*Gm.*).

102. **Wilsonia pusilla** (*Wils.*).

102a. **Wilsonia pusilla pileolata** (*Ridgw.*) Coues.

103. **Wilsonia canadensis** (*L.*) If use of a generic name in botany does not preclude its acceptance in zoölogy, *Wilsonia* should replace *Myiodioides*, Aud.

115. **Cotile riparia** (L.) Boie. In Isis, 1822, p. 550, Boie originally wrote *Cotile*, afterward changed to *Cotyle* (Isis, 1826). Most of us have supposed the latter to be correct, as if the Greek *κοτύλη*, and so it is almost universally written. (See B. C. V., p. 370.) Now it appears we have been wrong. There is the Greek *κοτιλάς*, a swallow, from *κοτῖλλω*, to prattle or twitter, from which doubtless Boie's genus, as originally spelled, is derived. (The point is said to be discussed in the last, or a late, number of the Ibis; but I have not seen the article.)

196. **Passerina ciris** (L.) Gray.

197. **Passerina versicolor** (Bp.) Gray.

198. **Passerina amœna** (Say) Gray.

199. **Passerina cyanea** (L.) Gray. The genus *Cyanospiza*, Bd., 1858, is given in Gray's Hand-list, II, p. 97, as synonymous with *Passerina*, Vieill., 1816. This is correct. The type of *Passerina*, Vieill., as given in the Analyse, 1816, p. 30, is "Le Ministre" of Buffon. On turning to Buffon, Hist. Nat. Ois., 4to ed., Vol. IV, 1778, p. 86, we find "Le Ministre" described by Montbrillard at second hand, the references being to Brisson and Catesby. Looking up Brisson, III, 1760, p. 13, we see that "Le Ministre" is his "Tangara bleu de la Caroline," *Tangara carolinensis carulea*, also described at second hand, the reference being to Catesby. Finally, consulting Catesby, I, p. 45, pl. 45, we find that he describes and figures a "Blue Linnet," which is the "Indigo Bird," *Cyanospiza cyanea*, Bd. It is true that Vieillot later expanded his genus (in the Nouv. Dict. d'Hist. Nat.) to cover a miscellaneous assortment of *Fringillidae* and *Icteridae*, but this does not affect his original establishment of the genus upon the Indigo Bird. It is also a fact that there is a prior *Passerina* in botany; but this does not preclude its use in zoölogy.

To the above species of *Passerina* are to be added *P. leclancheri* (Lafr.) Gray, and *P. rosita* (Lawr.) Coues.

149. **Astragalinus tristis** (L.) Cab.

150. **Astragalinus lawrencii** (Cass.) Coues.

151. **Astragalinus psaltria** (Say) Coues.

151a. **Astragalinus psaltria arizonæ**, Coues.

151b. **Astragalinus psaltria mexicanus** (Sw.) Coues. In the excessive generic subdivision which is now in vogue I find it necessary to restrict *Chrysomitris*, Boie, to *C. spinus* and its strict American congener, *C. pinus*, and to take *Astragalinus*, Cab., for *tristis* and its allies. Messrs. Baird and Ridgway did the same thing, in effect, in 1874, but by some oversight reversed the names, transferring *Astragalinus* to *pinus*, and *Chrysomitris* to *tristis* (Hist. N. A. B., I, pp. 470, 471). But the type of *Astragalinus* is *tristis*, and that of *Chrysomitris* is supposed to be *spinus*. In defending my separation of the two genera, I may say that, if any one will compare *Carduelis elegans*, *Chrysomitris spinus*, and *Astragalinus tristis*, he will find as much difference between the second and third of these as between the

second and first; and that therefore, to be consistent, he must either make three genera, or fall back upon *Carduelis* for all these Goldfinches collectively. Mr. Allen and other American writers have already used *Astragalinus* in a full generic sense.

153. **Centrophanes lapponicus** (L.) Kaup.

154. **Centrophanes pictus** (Sw.) Cab.

155. **Centrophanes ornatus** (Townsend) Cab.

156. **Rhynchophanes maccowni** (Lawr.) Bd. As Baird exhibited in 1858, there is a good deal of difference among the birds usually grouped with *Plectrophanes nivalis*, enough to separate them generically in the prevailing fashion. Bonaparte, in 1857, had taken *maccowni* out of the entire neighborhood, and placed it near a certain *Rhodopcephys phænicoptera*, as a Loxian of the Montifringilline group (Rev. et Mag. de Zool., IX, 1857, p. 161). But this may be going too far. Maccown's Bunting has precisely the habits of *C. ornatus*, with which it is associated during the breeding season in Dakota and Montana.

Are words ending in *-phanes* masculine or feminine? Authors are about equally divided. Cabanis, usually careful in this respect, writes *C. lapponica* and *C. pictus* on the same page.

159b. **Passerculus sandvicensis** (Gm.) Coues. This is the earliest name I know of for any species of *Passerculus*, or Savanna Sparrow, and must stand for one of them. If *savanna* of Wilson be judged not specifically different, it should be rated as *P. sandvicensis savanna*, and so with the other geographical races of the *Passerculus* stock, which it is now customary to recognize as varieties of "*savanna*, Wils."

161. **Poæcetes gramineus** (Gm.) Baird. The orthography of few names has given more trouble. Baird originally wrote *Poocætes*. The etymology is *πόα*, grass, and *οἰκητής*, an inhabitant. This would seem to give us *Poæcetes*, as originally emended by Selater, I think in 1859.

165. **Ammodramus maritimus** (Wils.) Sw. Swainson originally so spelled the name of the genus, and repeated the same orthography on other occasions. I see no necessity to follow Strickland in altering it to *Ammodromus*. As far as I have dug about the Greek root in this case, the alpha is as correct as the omicron, notwithstanding that we always say hippodrome and dromedary. The same remark applies to similar compounds of *-dramus* or *-dromus*.

169. **Melospiza fasciata** (Gm.) Scott. As Baird hinted in 1858, D. W. Scott argued in 1876, and Mr. Ridgway has finally adopted. The Fasciated Finch of Pennant and Latham, otherwise *Fringilla fasciata*, Gm., is undoubtedly the Song Sparrow. I allude to the species in this connection to remark that, though there is a Greek noun *melodia*, I know of no corresponding Latin adjective except *melodus*, *-a*, *-um*; and that therefore the *i* is superfluous. Those who do not accept *M. fasciata* may write *M. meloda*.

186. **Chondestes grammica** (Say) B. The trivial term was origi-

nally, and has usually since, been written *grammaca*, for which orthography I know of no authority. The Latin *grammica* is more correct. The gender of *Chondestes* may be in question.

193. **Goniophæa ludoviciana** (L.) Bowd. The genus *Hedymeles*, Cab., 1851, was based upon this species, but cannot be used for it because of *Hedymela*, Sundev. (Öfv. Vet. Akad., 1846, 223) for another genus of birds, the difference being merely dialectic. Cabanis seems to have proposed it simply because "*Habia* Reich. 1850" was not classically correct. But *Habia* or *Abia* is said to be antedated by *Habia*, Lesson, 1831, and therefore untenable. "*Goniaphea* Bowdich 1825" is said to be based upon the Rose-breasted Grosbeak; but I suspect that there is some mistake here. I have carefully examined Bowdich's "Excursions in Madeira," which is the reference given for the name, without finding any such genus; and Gray's Hand-list gives a different type for *Goniaphea*. If the Rose-breasted and Black-headed Grosbeaks are to be generically distinguished from the Blue Grosbeak, a new generic name seems to be required: *ZAMELODIA ludoviciana*, *Z. melanocephala*.

216. **Icterus galbula** (Linn., 1758) Coues. Since Baird first adopted some of the 1758 Linnæan names, there has been a growing disposition in their favor on the part of American ornithologists, and several have since been selected by Baird and Ridgway, and by myself. European ornithologists steadily refuse to recognize such names, on the ground that they do not take Linnæus's work until it finally left his hands in 1766. The argument for the tenth edition is, first, that here the binomial system is thoroughly established and consistently applied; and that Linnæus has no more right to change his own names, once thus fully set forth, than any one else has. It may be said, further, that to take Linnæus at 1758 would be to bring a reputable author, Brännich, within the pale, and to lessen the inconvenience of Brisson's exceptional case. At any rate, we have already adopted *Elanoides forficatus* instead of *E. furcatus*, *Chetura pelagica* for *C. pelasgia*, *Progne subis* for *P. purpurea*, *Icteria virens* for *I. ciridis*, etc. Consistency, which is a jewel, requires us either to abandon these or take the rest. I prefer the latter course; and the first case of this kind which I beg to submit is the *Coracias galbula* Linn., 1758. This is based solely upon Catesby, pl. 48; and Catesby's bird is the Baltimore Oriole, whose binomial name was changed by Linnæus in 1766 to *Oriolus baltimore*.

231. **Gymnocitta cyanocephala**, Max. Why we have retained the *k* in this generic name I know not; we write *-citta* or *-cissa* in other cases. The Greek kappa becomes *c* in Latin (at least in ornithological Latin).

234. **Cyanocitta cristata** (L.) Strickl.

235. **Cyanocitta stelleri** (Gm.).

235a. **Cyanocitta stelleri macrolopha** (Bd.) Coues.

235b. **Cyanocitta stelleri frontalis** (Ridgw.) Coues. The type of *Cyanurus*, Sw., 1831, is not *cristatus*, but some tropical American Jays for which Boie had proposed *Cyanocorax*. The error which Gray made and

Baird perpetuated was, in taking the *first species mentioned* as the type; whereas Swainson expressly says that this *cristatus*, which he first mentions, is "aberrant." When Strickland, in 1845, proposed *Cyanocitta*, he gave *cristatus* as the type, and so it must stand. Gray's and Baird's misapprehension respecting *Cyanocitta* arose apparently from the fact that Strickland in proposing the new genus named a new species *Cyanocitta superciliosa* (= *californica*, Vig.), whence it would appear at first sight that this species was the type of the new genus; but Strickland simply referred *superciliosa* to his new genus *Cyanocitta* because he did not wish to separate it generically from his type-species, *cristata*. So *Cyanocitta* must stand for the *crested* Blue Jays, leaving *Aphelocoma*, Cab., for the smooth-headed ones.

250. **Sayornis sayi** (Bp.) Bd. I see neither reason nor precedent for naming a species after a person in the way Bonaparte did in this case, — making an adjective out of the person's name, yet without any adjectival termination. *Sayus* or *saius* would be a Latinization of Mr. Say's name, as a substantive, and its genitive would be *sayi* or *saii*. If we wish to use an adjectival form, it should be *sayana* or *saiana*.

There is a good deal to be said about this matter of Latinizing proper names and getting at a satisfactory genitive case. For example, it is the rule to simply add *-us*, genitive *-i*, when the name ends with a consonant; as, *bairdi*, *cassini*. When the word ends with a vowel, the rule is to change that vowel into *i* and add *-us*; as, *laurencii*, *bonaparti*. But *y* is both vowel and consonant. It is true we have the custom of *rai*, *derbianus*, from Ray and Lord Derby; and this would give us *sai*, or *saiana*, in the present case. But it seems better to treat the final *y* as consonantal; *suckleyi* seems more sensible than *sucklei*.

Some curious cases come up occasionally. Would Mr. Ridgway, for example, recognize himself in *ridgwai* or *ridgwa*? What is the genitive of Boie's name in Latin? According to the first rule above mentioned it would be *Boii*! And how about a name already Latin in form, — that is, are we to write *blasii*, or *blasiusi*, — *xanti*, or *xantusi*?

362. **Haliaeetus leucocephalus** (L.) Sav. This seems to be the purer and preferable form of the generic word, possessing the additional recommendation of being that in which Savigny wrote it.

370. **Ectopistes migratorius** (L., 1766) Sw. I find that I must recede from the position I have lately several times held, that the name of our Wild Pigeon should be *Ectopistes macrura* (L., 1758). The following is a full and fair statement of the case. In 1758, Linnæus names a *Columba macroura*, based upon Edwards, pl. 15, and Catesby, pl. 23. Edwards's bird is the *Zenaidura*; Catesby's is the *Ectopistes*; the Linnæan diagnosis and habitat covers both birds. The species at it stands in 1758 is therefore a composite one, to be passed over. In presenting the name *macrurus* for adoption, my mistake has been that of supposing Edwards's figure to represent the Wild Pigeon, whereas it is clearly the Carolina

Pigeon. In 1766, Linnæus drops the name *macroura*, and substitutes for the Wild Pigeon two names: first, *canadensis* (Brisson, p. 118); and second, *migratoria* (based on Frisch, Kalm, Brisson, p. 100, and Catesby, pl. 23). He also at same date twice names the Carolina Pigeon; first, *carolinensis*, and, second, *marginata*, the latter being primarily based on Edwards, pl. 15. We have all properly adopted the name *carolinensis* for the *Zenaidura*, as it comes first on Linnæus's page (No. 37), though the description of *marginata* (No. 40) is the best one. But have we properly adopted *migratorius* for the *Ectopistes* (No. 36, on p. 285), as being the best described, since *canadensis* (No. 30, on p. 284) comes first on Linnæus's page, and is really "prior" to *migratorius*? Strict adherence to the law of priority, which we have followed in using *Zenaidura carolinensis* for the Carolina Dove, would require us to use *Ectopistes canadensis* for the Wild Pigeon. Is it worth while to make the change? Cases like this make one wish that there were in our nomenclature some "law of limitation," by which a name which has not been challenged for, say, fifty years or a century, might then acquire an inalienable right to recognition. In default of any such rule, *Ectopistes canadensis* becomes in strictness the tenable name of the Wild Pigeon.

Engyptila albifrons (Bp.) Coues. When I lately proposed *Æchmoptila*, g. n. *vice* *Leptoptila* preoccup., I overlooked the fact that Sundevall had already substituted *Engyptila* for the same genus, and for the same reason (Tentamen, 1872, p. 156).

379a. **Meleagris gallopavo americana** (Bartr.) Coues. This would appear to be the correct name for our Wild Turkey, and I have it so in the check list. It is true that Bartram called it *occidentalis* on an earlier page of the work in which he named it *americana*; but such name is geographically false as applied to the Eastern Turkey in distinction from the Western one. I bring up this case, however, chiefly to call attention to a hitherto neglected synonym of the bird. For Barton, in 1805, clearly distinguished two species of Turkey, calling the Eastern Wild Turkey *Meleagris palura* (Med. and Phys. Journ., II, 1805, p. 163).

429. **Limosa hæmastica** (Linn. 1758) Coues. This is the second case of the kind. The *Scolopax hæmastica*, Linn., 1758, is based upon Edwards, pl. 138, that is, upon the Hudsonian Godwit, *L. hudsonica* of authors.

437. **Machetes pugnax** (L.) Cuv. Moehring's names not being available, Cuvier's genus *Machetes* should replace *Philomachus*.

438. **Bartramia longicauda** (Bechst.) Coues. The genus *Bartramia*, Less., 1831, holds priority over *Actidurus*, Bp., 1832. It has been rejected on account of the prior botanical genus of same name; but my present ruling obliges me to recognize it in zoölogy. There are various specific names for the bird, the earliest of which I have any knowledge being *longicauda* of Bechstein, 1802, in his German version of Latham, Bd. IV, Th. II, p. 453.

445. **Plegadis falcinellus** (L.) Scl. and Salv. *Ibis* being shown to be

inapplicable to this genus, the next in order seems to be *Plegadis*, Kaup, 1829. The American bird has not been satisfactorily shown to differ from the old-world Glossy Ibis. If the White and Red Ibises be judged generically distinct from the Glossy, they become,—

446. *Eudocimus albus* (L.).

447. *Eudocimus ruber* (L.).

464. *Aramus pictus* (Bartr.) Coues. Whatever may be said for or against taking some of the slightly described species of Bartram's now notorious list, no objection can be urged against certain species fully described and formally named elsewhere in his work. The Black Vulture, the Wild Turkey, and the present bird are of this category.

510. *Histrionicus minutus* (L.) Coues. My friend, Mr. Dresser, uses the genus *Cosmonetta*, Kaup, 1829, instead of *Histrionicus*, Less., 1828, both being based upon *Anas histrionica*, L. He discards Lesson's name because it was proposed as a sub-genus only; but surely this furnishes a precedent too dangerous to follow, for to carry it into effect would be to upset hundreds of current names. It is generally conceded that, so far as availability is concerned, subgeneric are at par with generic names,—just as if, were I to make a *Falco fuscus* var. *brunneus*, afterward determined to be distinct specifically from *fuscus*, my name *brunneus* would be tenable, notwithstanding some one should have meanwhile called it *obscurus*. The specific name *histrionica* being taken for the genus, the next in order is *minuta*, L. Mr. Dresser is "convinced" that *minuta*, L., is the ♀ of the present species, but refrains from using it because of the generic usage he adopts. The term *Histrionicus minutus* actually occurs on Mr. Dresser's page, and I would gladly write his name as the authority for the combination I here adopt, were it not that, as he only uses it to reject it, I am not at liberty to do so. The above name is undesirable, but I see no way to "get around it."

483, seqq. *Branta* spp. I fear that some of us have been hasty to follow Dr. Bannister in rejecting *Bernicla*, Steph., for *Branta* of Scopoli. I have not the work at hand as I write, but I remember once looking it up and concluding that *Branta* was not available, from defective diagnosis, mixed types, or other cause.

499. *Aix sponsa* (L.) Boie. Does the rule for turning Greek alpha iota into Latin require us to emend Boie's genus *Aix*? Or is it properly written *Aix*, with the dieresis, and as a dissyllable?

505. *Clangula glaucium* (L.) Brehm.

506. *Clangula islandica* (Gm.) Bp.

507. *Clangula albeola* (L.) Steph. According to the synonymy as arranged by Dresser in B. Eur., Pt. XLVI, Dec., 1875, the type of *Clangula*, Fleming, 1822, is *Anas clangula*, L., though Gray's Hand-list says not so. But Gray had a rule about generic types which cannot be carried into practice. The original specific name being taken for the genus, its Linnæan synonym *glaucion* becomes available, and I do not see why we should not follow Brisson in writing it *glaucium*.

547c. *Larus cachinnans*, *Pall.*

547d. *Larus affinis*, *Reinh.*

549a. *Larus canus*, *L.* According to recent determinations, these three species are to be added to my list. The first two have been decided to be distinct species, and the third, well known in Europe, has been discovered among my Labrador collections of 1860.

626. *Alle nigricans*, *Link.* See Bull. Nutt. Ornith. Club, IV, Oct., 1879, p. 244.

THOMAS MAYO BREWER.

DR. THOMAS MAYO BREWER, so well known as an ornithologist, died after a short illness at his residence in Boston, January 23, 1880. He was born in Boston, November 21, 1814, graduated at Harvard College in 1835, and three years later took the degree of M. D. at the Harvard Medical School. He entered immediately upon the practice of his profession, and was for some years dispensary physician for the "North End" section of his native city. His tastes were, however, strongly in other directions. As early as 1837 he published a noteworthy paper entitled "Some Additions to the Catalogue of the Birds of Massachusetts in Prof. Hitchcock's Report, etc.," these additions increasing by one fourth the list of the birds then known as inhabitants of this State. His interest in ornithology began, however, at a much earlier date, since he was a friend and associate of Nuttall and Audubon, the latter of whom frequently speaks, in his great work on North American birds, of his indebtedness to his young friend, Mr. T. M. Brewer, for information and for rare specimens of birds. General politics occupied a large share of his attention, and his predilection in that direction was so strong that he soon abandoned the practice of medicine and accepted an editorial position on the "Boston Atlas," a leading Whig paper of the period, to which he had been previously a frequent contributor. He was not only a vigorous and bold writer, but his sagacity and soundness of judgment gave him much influence with the leaders of the Whig party. The editorial letters from Washington, daily sent by him to his paper during several winters spent at the capital, have been referred to as furnishing the most reliable transcript of passing events that were to be found in the

daily press. Having previously retired from editorial life, in 1857 he became a partner in the publishing firm of Swan and Tileston, and for some years was at the head of the well-known house of Brewer and Tileston. In 1875 he retired from business, and passed the next two years abroad, during which time he made many warm friends among the scientific men of England and the Continent.

His great interest in all matters relating to popular education led to his election, as early as 1844, to the Boston School Board, and at the time of his death he had been recently rechosen for the term of three years to the reorganized board, of which he was the senior member. His fidelity to the duties of this and other public trusts was conspicuous.

During this long period of engrossing professional, commercial, and official engagements, he still maintained an active interest in ornithological pursuits, as is fully evinced by his frequent contributions to the literature of American ornithology. The department of oölogy, in its broader sense, was the rather restricted field in which he labored, and in which he has ever been looked upon as a leading authority. To this branch of the general subject his numerous scientific papers mainly relate. Aside from his minor contributions to the publications of the Boston Society of Natural History, and to several of the scientific and literary journals of the day, and which cover a period of over forty years, he published in 1840 an edition of Wilson's "American Ornithology," to which he added, as an appendix, a well-digested and useful "Synopsis" of the birds known at that time as North American. The "Brewer edition" of Wilson, — the only American edition of Wilson's work, except Ord's, published prior to 1871, — from its small cost, placed this delightful treatise within the reach of a wide circle of readers to whom the more expensive original and Ord editions were inaccessible, and thereby greatly stimulated popular interest in this entertaining department of natural history. In addition to the original text of Wilson, the Brewer edition included the synonymy and critical commentary of the well-known Jardine edition.

In 1857 was published the first part of his "North American Oölogy," which forms part of Volume IX of the "Smithsonian Contributions to Knowledge." The full title of the work — "North American Oölogy; being an Account of the Geographical Distribution of the Birds of North America during the Breeding Season, with Figures and Descriptions of their Eggs" — indicates very fairly its

scope and character; but, in addition to the topics thus indicated, the work gives a pretty full exposition of the breeding habits of the species treated, so far as then known, and also full tables of synonymy. Owing to the great cost of the illustrations, the work was not continued beyond the first part, which treats of the Birds of Prey, the Swifts, Swallows, Goatsuckers, and Kingfishers. This work, until within the last year, was the only special treatise extant on the subject to which it relates, and will ever hold the place of a standard work. It is, moreover, a work which brought to its author great credit, and through which he became widely known as an ornithologist.

In 1874 appeared "A History of North American Birds," under the joint authorship of S. F. Baird, T. M. Brewer, and R. Ridgway, in three quarto volumes, devoted to the "Land Birds." To this work the whole of the biographical part, forming probably two thirds of the letter-press, was contributed by Dr. Brewer, and throughout evinces the hand of the expert in all that relates to his special department of a work which marks an era in the history of North American ornithology. He has left the manuscript for the completion of his share of this great work, the final revision of which he had but just completed at the time of his death. He had also accumulated a large amount of material for the contemplated continuation of his "North American Oölogy." His collection of eggs, carefully selected during a long series of years, is doubtless one of the best private oölogical collections extant. By a provision of his will this collection is left to the Museum of Comparative Zoölogy.

Socially Dr. Brewer was greatly esteemed; his warm sympathy, his loyalty to friends and to his convictions of truth and duty, were marked traits in his character. Removed suddenly, and when there were apparently years of activity and leisure before him for research, his loss to science is not easily replaced.

He was married in 1849 to Miss Sally R. Coffin, daughter of Mr. Stephen Coffin, of Damariscotta, Me.; she and one daughter survive him. The loss of a son, who died at an early age, cast over his domestic life a shadow which never entirely passed away. — Eds.

Recent Literature.

HENSHAW'S REPORT ON COLLECTIONS MADE IN CALIFORNIA, NEVADA, AND OREGON IN 1877-78. — Mr. H. W. Henshaw's "Ornithological Report" * for the field seasons of 1877 and 1878 is much more than a record of field observations for the seasons named, treating, as it does most ably, though briefly, of the relationships of the members of several of the most puzzling groups of North American birds. In addition to having access to a large amount of material, much of which the author collected himself, he is able to bring to bear upon the questions at issue an intimate knowledge of the birds in life, and of the varying conditions of environment which surround the forms treated. The routes followed during the two years, the author informs us, "amounted practically to a continuous line from Carson, near the western border of Nevada and a little south of the Central Pacific Railroad, to The Dalles, on the Columbia River." This gave opportunity for a comparative study of the birds of the several regions traversed. The continuous chain formed by the Sierra Nevada of California and the Cascade Mountains of Oregon "constitutes the first real obstacle to the extension of animals and plants to the westward that is encountered after the main chain of the Rocky Mountains, the 'backbone' of the continent, has been passed. So far, at least, as the extension of birds is concerned," says Mr. Henshaw, "it appears to be an extremely effectual one, and the rocky barrier thus constituted may be taken as limiting with precision the Middle Faunal Province." Mr. Henshaw considers, however, that this geographical barrier has less to do with the absolute limitation of species than have the very diverse climatic conditions that obtain on either side of it, coupled with the great change in plant and insect life that these conditions entail. After a brief statement of the nature and influence of these factors, the author proceeds to a formal enumeration of the species and sub-species observed, some 185 in number, with more or less extended notices of their habits and peculiarities of distribution. In the way of more technical matter, the author discusses at some length the relationship of Cassin's Vireo to its near allies of the *solitarius* group, *solitarius* and *plumbeus*. His conclusion is (p. 293) that the Solitary Vireo, "like many other birds, appears to be divisible in three distinct races, according as it inhabits the Eastern, the Middle, or

* Ornithological Report upon Collections made in Portions of California, Nevada, and Oregon. By H. W. Henshaw. Annual Report of the U. S. Geogr. Surveys west of the 100th Meridian for 1879. Appendix L of the Report of the Chief of Engineers, pp. 282-335. Feb., 1880.

the Pacific provinces. Each has its own restricted summer habitat, where it alone is found." Of the two Western varieties, *plumbeus* appears to be the best marked, or, in other words, "to be further advanced in the process of differentiation." The measurements given show *plumbeus* to be appreciably larger than either *cassini* or *solitarius*.

Mr. Henshaw here confirms the conclusion he has previously announced respecting the status of certain forms of the genus *Zonotrichia*, he regarding *intermedia* as a subspecies of *gambeli*, and the latter as specifically distinct from *Z. leucophrys*. Varieties *gambeli* and *intermedia* are considered to be, respectively, the dark coast and light interior races of one species, the *Z. gambeli* of authors. His discussion of the relationships of the *Melospiza melodia* group has already appeared in full in this Bulletin (Vol. IV, pp. 155-160). In view of the great stress often laid upon differences of habit as diagnostic of specific and varietal forms, his remarks upon this point under *Pipilo maculatus megalonyx* (p. 300) are well worthy of attention, as expressing the conclusions of an unbiased observer of long experience. After affirming that at best such evidence is "but a precarious means of discrimination, especially between birds closely related," he adds: "Apparent discrepancies in records are by no means always, perhaps, in fact, only in comparatively rare instances, attributable to inaccuracies of observation. But too often the fact is overlooked, or practically ignored, that in birds of the same species, at the same locality, and even at the same time, there may be a very marked diversity of habits, which is an expression of nothing more or less than individual taste or the result of quite adventitious circumstances. Such being the case, it is scarcely to be wondered at that in distant localities, where the observer is ever on the alert for new facts, he should, not infrequently, be misled into false comparisons by a note new to his experience, or some hitherto unnoticed habit, which, perhaps, had it been marked nearer home, would have attracted but casual attention."

The status of the so-called Western Fish Crow (*Corvus caurinus*) is considered at length. After discussing the question in its various bearings, testing in detail the supposed evidences of its specific distinctness, he arrives at the conclusion that, while some of the Crows of the Pacific slope differ a little in voice and habits from their Eastern relatives, all of those occurring south of the northern boundary of Washington Territory must be referred to the Common Crow, *Corvus americanus*. Those occurring along the Pacific coast from Puget Sound northward to Alaska are found to be smaller, with a relatively shorter tarsus, than those from more southern localities, and to these Mr. Henshaw proposes to restrict the varietal name *caurinus*, which was originally based on specimens from Puget Sound and Washington Territory. It therefore follows that the Fish Crow of the Atlantic coast has no representative species on the Pacific slope.

Of the Jays of the genus *Perisoreus*, Mr. Henshaw regards Mr. Ridgway's

P. canadensis obscurus from the Northwest Coast as a good species, while he has no doubt of the complete intergradation of the Rocky Mountain form *capitalis* with the Eastern *canadensis*.

In relation to the habits of the species mentioned, the Report contains much that is new, and altogether forms one of the most valuable of Mr. Henshaw's important contributions to the history of the birds of the "Far West." — J. A. A.

CORY'S BIRDS OF THE BAHAMA ISLANDS. — The recently published results of Mr. Cory's eminently successful exploration of the Bahama Islands in the interest of ornithology* forms a valuable addition to our knowledge of the birds of these islands. Of the 149 species recorded, all but about 30 were met with by Mr. Cory, the remainder being given on the authority of the late Dr. Henry Bryant, and Messrs. Moore and Brace, but mainly on that of Dr. Bryant. A few are for the first time enumerated as inhabitants of the Bahamas. In addition to the short descriptions of the species, the relative abundance and distribution of the species is noted, to which is frequently added a short account of their habits. One species (*Ardea cyanirostris*) is described and figured as new; it is closely allied to the Louisiana Heron (*A. leucogastra leucopygma*), from which it is alleged to differ in the color of the bill, which has the terminal third black and the remainder sky-blue instead of yellow, and in the plumage being somewhat darker. The other species figured are *Crotophaga ani*, *Mimocichla plumbea*, *Spindalis zena*, *Saurothera bahamensis*, *Phanicopterus ruber*, *Dafila bahamensis*, and *Sterna anostheta*. Near the close of the volume is given a tabular list of the species, showing their distribution, from which it appears that all but 32 out of the 149 occur also in the United States, while about a dozen are thus far known only from single islands. An Appendix contains a list of 36 species, whose occurrence is regarded as probable, but as yet not known. In point of typography and mechanical execution the work is elegant, and the illustrations are creditable in general effect, but the artist has ignored the zygodactyle character of the foot in both *Crotophaga ani* and *Saurothera bahamensis*. It was evidently prepared with a view of supplying to the many visitors to these islands the means for the ready identification of the birds occurring there, as well as to record the author's own careful studies of the bird life of the Bahama Islands. — J. A. A.

MCCHESNEY'S REPORT ON THE MAMMALS AND BIRDS OF THE BIG HORN REGION, MONTANA. — Dr. McChesney's Report† proves an inter-

* Birds of the Bahama Islands; containing many Birds new to the Islands, and a Number of undescribed Winter Plumages of North American Birds. By Charles B. Cory, Author of "A Naturalist in the Magdalen Islands," etc. Illustrated. Boston: Published by the Author, 8 Arlington Street, Boston. 1880. 4to. pp. 350, with 8 colored Plates.

† Report on the Mammals and Birds of the General Region of the Big Horn

esting addition to the faunal records of the West, treating as it does of a region of which very little is known from actual field work. The list of 100 species of birds is the result of less than a month's investigation, — from August 15 onward, — and, as the author states, represents half the number that actually occur there. The notes, though brief, are usually sufficient to indicate the nature of the occurrence of each species, and, as in the greater number of cases they result directly from the author's own observations, they carry with them the value of perfect authenticity. We notice one especially interesting item, viz. the occurrence of the Varied Thrush (*Turdus naevius*) near Fort Custer, Montana. This is, we believe, the first announcement of the appearance of the species east of the Sierras, except as a pure straggler, such being the nature of the several recorded instances of its presence along the Atlantic coast, in Massachusetts, New Jersey, and on Long Island. From the accompanying remarks, "in numbers, Aug. 20," it is evident that the record is of more importance than any of the others, although it seems probable that this too will prove to be an isolated instance of unusual distribution, and that this west coast species is not a regular visitant to this region. The geographical position of the region in question places it entirely outside the confines of the Eastern and within the Middle Province, as is evidenced by the list, which contains the name of not a single exclusively Eastern species. It is to be hoped that an opportunity will be afforded Dr. McChesney for further investigations upon the zoölogy of this region, and that we may be favored with a full report from his pen upon its ornithology. — H. W. H.

BREWER'S ADDITIONAL NOTES ON NEW ENGLAND BIRDS. — The last contribution of the late Dr. Brewer to New England ornithology* contains notes on some 40 species. It forms a second supplement to his "Catalogue of the Birds of New England," † published in 1875, and adds five species to the number previously recognized by him as New England birds, raising the whole number to 361. Most of the facts here recorded had already appeared in this Bulletin, contributed partly by the author himself. We note, however, as new, the record (p. 264, second foot-note) of the capture of a third New England specimen of the Blue-gray Gnatcatcher (*Poliophtila cærulea*) at Osterville, Cape Cod, September 26, 1879, by Mr. Arthur P. Chadbourne; also the capture of a specimen of a South

River and Mountains of Montana Territory. By Charles E. McChesney, U. S. A. Being Appendix SS3 of the Report of the Chief of Engineers for 1879.

* Some Additional Notes upon Birds observed in New England, with the Names of Five Species not included in his Previous Lists of New England Birds. By T. M. Brewer. Proc. Boston Soc. Nat. Hist., Vol. XX, pp. 263–277. Published December, 1879.

† Proc. Bost. Soc. Nat. Hist., Vol. XVII, pp. 436–454. For the first supplemental list see op. cit., Vol. XIX, pp. 301–309, published April, 1878.

African Finch (*Crithagra butyracea*) at South Scituate, Mass., and of a specimen of the European Goldfinch (*Carduelis elegans*) near Boston in 1878. Both of the latter, however, are stated to have been undoubtedly escaped cage-birds, and are not considered as additions to our fauna. About four pages are devoted to the history of the breeding of the Loggerhead Shrike (*Lanius ludovicianus*) near Bangor, Me. and Rutland, Vt., — a fuller and more detailed account than had previously appeared. These "Notes" form a convenient and connected record of recent discoveries in relation to many of the rarer New England birds, and add more or less that is new respecting some of them. — J. A. A.

KUMLIEN'S CONTRIBUTIONS TO THE NATURAL HISTORY OF ARCTIC AMERICA.* — Nearly fifty pages of Mr. Kumlien's "Contributions" are devoted to the birds observed. Of the 84 species noted, seven or eight relate to localities not Arctic, being species that visited the ship while off Newfoundland and neighboring points. Of the remainder, only about twenty are land birds. The notes respecting many of the species are quite extended, and embrace many points of interest. The Stonechat is given as "one of the commonest land birds of Disko Island, Greenland," where other birds are spoken of as common, and as breeding, though rare, along both shores of Cumberland Sound and on the west coast of Davis Strait. The European Ring-necked Plover (*Ægialitis hiaticula*), previously reported by Captain H. W. Feilden from Buchanan Strait, and "long known as a common bird of the Greenland coast," was found not rare on the shores of Cumberland Sound. *Larus glaucescens* is stated to be "quite common on the upper Cumberland waters, where they breed," its first record on the Atlantic coast, but one well substantiated, resting, as we are informed, on specimens received at the National Museum. The Avocet (*Recurvirostra americana*) is confidently entered in the list, on the authority of a drawing "made by a wild Eskimo"; but we fancy many ornithologists will require more tangible evidence before accepting this species as a bird of Arctic America. A Crane, recorded as "*Grus* — ? (probably *fraterculus*)," is said to be "quite common in some localities," and to breed "in Kingwah and Kingnite Fjords in Cumberland, in Exeter Sound and Home Bay on the west coast of Davis Straits," and to be especially common in spring at Godhavn. If not *Grus canadensis*, previously recorded as a bird of Greenland, there seems little probability of its being *G. fraterculus* (cf. this number of the Bulletin, p. 123). The Purple Sandpiper (*Tringa subarquata*) is given as "not uncommon in North Greenland. Eggs were procured at Christianshaab, Greenland, through the kindness of Governor Edgar Fencker. Not observed on any part of Cumberland that I visited." The eggs here mentioned were re-

* Contributions to the Natural History of Arctic America, made in Connection with the Howgate Polar Expedition, 1877-78. By Ludwig Kumlien, Naturalist of the Expedition. Bull. U. S. Nat. Mus., No. 15, 1879. Birds, pp. 69-105.

cently described by Dr. Brewer in this Bulletin (Vol. IV, p. 190), and in the "Ibis" (1879, p. 375); but Captain Feilden (Ibis, 1879, p. 486) has considered their authenticity doubtful (cf. Harting, Zoölogist, March, 1880, p. 104). Mr. Kumlien also notes the occurrence near Oosooadluin Harbor of a bird he took to be a species of *Pyrrhula*, but as it was merely seen, and not captured, and the presence of the genus there seeming improbable, the record can evidently be accepted only with reservation. — J. A. A.

GIBBS'S LIST OF THE BIRDS OF MICHIGAN.* — Although several prior lists of the birds of Michigan have appeared, the present one is a welcome addition to our knowledge of the ornithology of that State. Mr. Gibbs's list enumerates 310 species and sub-species, and contains brief notes on their relative abundance, breeding, times of migration, etc. The region in question is ornithologically a too well-tilled field to lead one to expect many novelties, but the list is not without points of special interest. Although mainly based on the observations of the author, he expresses his indebtedness to other sources of information, and it would have added greatly to the interest of the list, if not a little to its value, if the authorities for the introduction of certain species and statements admittedly given at second hand had been cited; and also if, in respect to certain species entered as breeding, it had been stated whether this relates to the State at large, or only to the "upper peninsula" in some cases, and to the "lower peninsula" in others, as, for example, the Winter Wren, Red-bellied Nuthatch, the Towhee Bunting, and several of the Warblers. This discrimination, it should be added, is in many cases clearly made. — J. A. A.

HARVIE-BROWN ON THE CAPERCAILLIE IN SCOTLAND.† — The Capercaillie (*Tetrao urogallus*), the finest of the Game Birds of Northern Europe, became extinct in Scotland prior to the beginning of the present century. As early as 1827 or 1828 some feeble attempts were made toward its restoration by the importation of a pair of these birds from Sweden, followed by a second importation of a single pair the year following. These efforts very naturally resulted unfavorably, but ten years later the matter was taken more vigorously in hand, when between forty and fifty birds were introduced in the years 1837 and 1838 to Taymouth, and turned down. This importation was to a high degree successful; the birds rapidly increased, and gradually spread to quite distant points, in some directions to upward of fifty miles within thirty years. They

* Annotated List of the Birds of Michigan. By Dr. Morris Gibbs. Bull. of the U. S. Geol. and Geogr. Survey of the Territories, Vol. V, No. 3, pp. 481 – 497. November 30, 1879.

† The Capercaillie in Scotland. By J. A. Harvie-Brown, F. Z. S., Member of the British Ornithologists' Union, etc. Edinburgh: David Douglas. 1879. 8vo, pp. i – xv, 1 – 155, map and pll.

appear to now occupy quite generally the forests suited to their habits within thirty to forty miles of Taymouth, eastward and southward, but to be less evenly dispersed over a similar radius in other directions.

Mr. Harvie-Brown treats the general subject of the Capercaillie in Scotland exhaustively. Beginning with such pre-historic evidence as is afforded by the bone-caves and kitchen-middens, he finds no indication of the existence of its remains in those of Scotland, among which latter birds' bones of any kind are of rare occurrence. He then presents its history prior to extinction, followed by that of its restoration, and a detailed account of its increase and extension, illustrated by a map. He later discusses the influences which govern its increase, its relation to the decrease of Black Game, its damage to forests and grain, etc. Of special interest also are his chapters on the derivation, significance, and proper orthography of the word Capercaillie. In short, every point of the subject is elaborated with the utmost thoroughness, the work forming a model of its class. — J. A. A.

SENNETT'S FURTHER NOTES ON THE BIRDS OF THE LOWER RIO GRANDE OF TEXAS * — The report of Mr. Sennett's three months' work (in April, May, and June) in 1878, near Hidalgo, Texas, adds greatly to our knowledge of the life-histories of many species of which we previously knew very little. The species new to our fauna, detected by Mr. Sennett on his second visit to this region, were first announced in July, 1878 (see "The Country" of July 13, 1878, p. 184), and observations relating to the nesting of some of the species appeared nearly a year since in "Science News" (cf. this Bulletin, Vol. V, p. 45); but these earlier preliminary notices detract little from the interest of the present paper, every page of which adds valuable information to our knowledge of the birds of this recently almost ornithologically unknown region. In addition to the notes on the habits of the birds observed, which in the case of the less known species amount in some instances to full biographies, the author presents us with extended tables of measurements, gives detailed descriptions of nests and eggs, and occasionally discusses points of relationship and nomenclature. Dr. Coues adds the full synonymy and descriptions of the species newly added by Mr. Sennett to our fauna (for a list of these additions, see *antea*, pp. 89, 90, *passim*), with critical remarks and bibliographical references to a few others. The "Notes" relate to 168 species, and altogether form one of the most valuable of the many recent contributions to local ornithology. — J. A. A.

* Further Notes on the Ornithology of the Lower Rio Grande of Texas, from Observations made during the Spring of 1878. By George B. Sennett. Edited, with Annotations, by Dr. Elliott Coues, U. S. A. Bull. U. S. Geol. and Geogr. Survey of the Territories, Vol. V, No. 3, pp. 371-440, November 30, 1879.

MINOT'S DIARY OF A BIRD.* — This entertaining and pleasantly written piece of bird-gossip is represented to be a translation of a "Diary" of a "Black-throated Green Warbler," and recounts, among other things, the doings of "a grand mass meeting" of the birds to discuss "The Destruction and Extermination of Birds; how caused, and how to be prevented," in which various members of the great bird convention relate their grievances. At this point of the narrative the "translator" takes the opportunity to interpolate statistics relating to the destruction of Game Birds and Water Fowl for the market, and to suggest more stringent legislation for the protection of these and other classes of birds. The object of this attractive little brochure is to awaken popular interest in the general subject of the better protection of our birds, not only against the professional market gunner, but from their wholesale destruction to meet the demands of the milliner. — J. A. A.

MINOR ORNITHOLOGICAL PAPERS.† — Volume III of "Field and Forest" (July, 1877 – June, 1878), — the last volume to be issued, we regret to say, of this valuable journal, — contains the following: —

19. *Mrs. Maxwell's Colorado Museum. — Additional Notes.* By Robert Ridgway. *Field and Forest*, Vol. III, p. 11. — On specimens of *Junco caniceps* and *J. annectens*, exhibiting unusual variations of plumage.

20. *Arrivals of Birds.* By W. L. Jones. *Ibid.*, pp. 17, 18. — Records the arrival in spring of various species of birds at Lebanon, Ill.

21. [*Hibernation of Swallows.*] *Ibid.*, pp. 35, 36. — Communication by Robert R. McLeod covering statements by John F. Goss and A. S. Freeman regarding the discovery of Bank Swallows hibernating in mud and in a hollow tree.

22. *Field Notes on some of the Birds of the District of Columbia.* By P. L. Jouy. *Ibid.*, pp. 51, 52. — Notes on six species, among them *Dendraeca cerulea* (a specimen seen), *Chondestes grammica* (two seen and a third shot), and *Pipilo erythrophthalmus* (two specimens with white spots on the scapulars, thus approaching var. *arcticus*).

23. *Notes on the Habits of the Green-backed California Humming-Bird, Selasphorus allenii, Hensh.* By H. W. Henshaw. *Ibid.*, pp. 95–98. — A detailed account of the habits of this species, based on information received from C. A. Allen, of Nicasio, Cal.

24. *Natural History of the Islands of Lake Erie.* By H. H. Ballou. *Ibid.*, pp. 135–137. — Enumerates about thirty-eight species of birds, most of them marked as breeding.

25. *Additions to the List of District Birds.* By W. F. Roberts. *Ibid.*, p. 172. — Adds *Macrorhamphus griseus*, and states the whole number of species known from the District of Columbia to be 242.

* The Diary of a Bird. By H. D. Minot. Boston: A. Williams & Co. 1880. Svo, pp. 38, cuts.

† Continued from Vol. V, p. 46.

Volumes V and VI of "Familiar Science and Fancier's Journal" * contain many ornithological communications of permanent interest, including the following (Nos. 26-48):—

26. *The [Rapacious] Birds of Connecticut.* By William Wood, M. D. Fam. Sci. and Fanc. Jour., Vol. V, 1878, pp. 6, 7, 26-28, 49, 50, 73-75, 93, 94, 111, 132-134, 152-155, 171, 172, 191, 192, 210, 211, 226, 227; Vol. VI, 1879, pp. 1-3, 21, 22, 37, 38, 57, 58, 76-78.—A series of twenty articles on the Birds of Prey, largely compiled from trustworthy sources, but including previously unpublished original observations, and bringing the subject down to date. "The Washington Sea-Eagle (*Haliaetus washingtoni*, Aud.)" is formally treated, like the rest; but the author finally informs his readers of its true status.

27. *Modifications in the Breeding Habits of Birds caused by the Persecutions of Man.* By C. J. Maynard. *Ibid.*, V, pp. 7, 8.—Relates especially to the Herons, Terns, Gulls, Wild Turkey, Prairie Hen, and the Anks, Guillemots, and Puffins. A valuable contribution to the subject.

28. *Our Birds of Prey.* By Mary H. Hamlin. *Ibid.*, V, p. 29.—Notes on the nesting and general habits of four of our common species of Hawks.

29. *Birds of the Garden and Orchard.* By John H. Sage. *Ibid.*, V, pp. 50, 51.—A popular general account of species observed by the writer in his orchard and garden at Portland, Conn.

30. *Instructions for Preparing Birds' Eggs.* By William Wood, M. D. *Ibid.*, pp. 51, 52.—A series of rules for the preparation and preservation of eggs, by one qualified to write authoritatively on the subject.

31. *Professional Oölogists.* By J[ennie] M. W[hipple]. *Ibid.*, V, p. 75.—Chiefly relating to the destruction of birds' eggs by squirrels.

32. *Woodcock killed by Telegraph Wires.* By J. M. W[hipple]. *Ibid.*, V, p. 94.—Several instances cited; also reference to Grouse flying into stone walls, wood-piles, and against houses.

33. *The Season of '78.* By J. M. W[hipple]. *Ibid.*, V, p. 112.—On the arrival and breeding of various species in the vicinity of Norwich, Connecticut; includes several curious facts.

34. *"Evidence of Design in Birds' Eggs."* Reply. By William Wood, M. D. *Ibid.*, V, p. 113.—Controverting an article by this title previously copied from "Land and Water," where the theory was advanced that birds breeding in holes lay round eggs, so that they will lie more compactly, and oblong or pointed eggs when they are deposited on rocks or exposed flat surfaces, to prevent their being rolled away by the wind or the parent bird.

* Familiar Science and Fancier's Journal, an Illustrated Magazine, devoted to the Student of Nature, and the Interest of Home. Joseph M. Wade, Editor and Proprietor, Springfield, Mass.

35. *The End of the Season.* By J. M. W[hipple]. *Ibid.*, V, p. 134. — Notes on some of the late-breeding species in the neighborhood of Norwich, Conn.

36. *The Carolina Parakeet (Conurus carolinensis).* By C. W. Gedney. *Ibid.*, V, pp. 135, 136. — On its general history, with special reference to its availability for aviaries and as cage pets. Stated to breed freely in confinement, under judicious management.

37. *The Pigmy Owl, Glaucidium passerinum var. californicum, Scl.* By William Wood, M. D. *Ibid.*, V, pp. 173, 174. — A full account of the species, compiled from all available sources.

38. *Facts and Fancies in Organic Life.* By B. Horsford. *Ibid.*, Vol. VI, pp. 7, 40. — Chiefly noteworthy as containing (p. 40) an attempt to represent the songs of "our Wood Thrushes" by means of the musical scale.

39. *Acclimating British Songsters.* By S. G. D. *Ibid.*, VI, pp. 22, 23. — A notice of the importation of various species of British song-birds to Greenwood Cemetery, New York, in November, 1853, and of an unsuccessful attempt at their acclimatization, with hints as to the proper course to pursue to assure success in any future similar attempts that may be made.

40. *The Oologist in Winter.* By J. M. W[hipple]. *Ibid.*, VI, pp. 23, 24. — Hints for profitable field-work in winter.

41. *Illogical or Ological.* By J. M. W[hipple]. *Ibid.*, VI, pp. 39, 40. — Pleasantly written notes on the breeding habits, nests, and eggs of several species of Hawks, based on observations made near Norwich, Conn.

42. *Field Notes.* *Ibid.*, p. 60. — Three short articles by J. M. W[hipple], Norwich, Conn., F. T. J[encks], Providence, R. I., and J. H. S[age], Portland, Conn., chiefly about winter and early spring birds observed at the above-named localities. Embraces several interesting notes. Covers also a short account of the nesting of the Canada Jay, by Henry G. Vennor, of Montreal, Canada.

43. *Three Early-breeding Birds.* By J. M. W[hipple]. *Ibid.*, VI, p. 80. — Breeding of the Barred Owl in March; notes on the breeding of the Great Horned Owl and Red-shouldered Hawk, and on early spring arrivals; reference to Woodcocks killed by telegraph wires.

44. *The Waning Season.* By J. M. W[hipple]. *Ibid.*, VI, p. 126. — Includes notes on the breeding of *Parula americana* (six sets of eggs taken May 29 and 30, and others found later), the Fish Hawk, and other species, in Southern Connecticut.

45. *The Close of the Season.* By J. M. W[hipple]. *Ibid.*, VI, pp. 142, 143. — Interesting notes on the nesting of some of the rarer birds of Southern Connecticut, and incidentally on the nesting of others.

46. *Field Notes.* *Ibid.*, VI, p. 143. — Among other notes covered by this title, H. T. Gates states that a Rough-legged Hawk (*Archibuteo lagopus sancti-johannis*) was seen June 25 and 26, near Hartford, Conn., and Dr. William Wood, of East Windsor Hill, Conn., reports having received eleven Bald Eagles in thirteen months, all shot by the same man.

47. *Fugitive Notes.* By J. M. W[hipple]. *Ibid.*, VI, p. 158. — Records spotted eggs of the Bridge Pewee, and a set of "six white Bluebird's eggs"; also later sets of white eggs of the same birds, which produced young. Notes also the capture of birds by frogs, and the destruction of Bluebird's eggs by gray squirrels.

48. *The Indigo Finch.* By C. W. Gedney. *Ibid.*, VI, p. 159. — Mainly relating to its life in aviaries and cages.

N. B. — The announcement is made in the closing number of Vol. VI of the "Familiar Science and Fancier's Journal," that a change in the name, size, and character of this journal will be made with the beginning of Vol. VII (1880) by the omission of the "prefix and addenda" of the name (see *antea*, p. 113, foot-note), and the exclusion of all matter not relating to Poultry, Pigeons, and kindred topics. The announcement is also made that the "Familiar Science" will be started "in the spring" of 1880 as a separate publication, devoted to original field notes and observations. — J. A. A.

General Notes.

CAPTURE OF THE STONECHAT NEAR EASTPORT, MAINE. — I have had sent me a Stonechat (*Saxicola ananthe*) shot by Mr. George Moses on Indian Island, near Eastport, August 25, 1879. — GEORGE A. BOARDMAN, *Milltown, N. B.*

A CROSSBILLED HORNED LARK. — Professor H. W. Parker, of the Agricultural College of Iowa, recently sent me drawings and a description of a Horned Lark with crossed mandibles, shot at Grinnell, Iowa, December 9, 1879. Both mandibles are of the same length, rather longer and slenderer than usual, the upper curving downward and the lower upward, passing by each other and crossing in the same manner as in the Crossbills. The specimen is thus truly a *crossbilled* Horned Lark. Deformities of the bill in birds is not a very rare occurrence, but examples are rare in which the mandibles are so fully and symmetrically crossed as in the present case. A similar deformity in a Magpie is recorded by Dr. Brewer (Familiar Science and Fancier's Journal, June, 1879, p. 106), and a few other like cases are on record. — J. A. ALLEN, *Cambridge, Mass.*

CAPTURE OF THE PROTHONOTARY WARBLER (*Protonotaria citrea*) NEAR PHILADELPHIA. — A female of the Prothonotary Warbler (*P. citrea*) was shot last May (1879) on the Schuylkill, near Gray's Ferry Bridge, below Philadelphia, and is now in the writer's collection. This is another addition to the very few recorded captures of this species at so northern a point in its Atlantic sea-board range. — SPENCER TROTTER, *Philadelphia, Pa.*

THE WORM-EATING WARBLER (*Helminthorus vermicivorus*) BREEDING IN SOUTHERN CONNECTICUT. — June 10, 1879, Mr. W. R. Nichols found a nest of this species on the side of a ridge sloping toward the east into Lake Saltonstall, near New Haven. The nest resembled those already described, and contained four young and one egg. It was identified by the capture of the sitting bird. This is, I believe, the first known instance of its nesting in Connecticut. While collecting with Mr. Nichols, June 16, 1879, in the same section of country, we saw a pair of these birds which must have nested there, although we were unable to find the nest. — GEORGE WOOLSEY, *New Haven, Conn.*

THE LARGE-BILLED WATER THRUSH (*Siurus motacilla*) IN EASTERN RHODE ISLAND. — The most eastern previous record of this Thrush is a specimen in my cabinet, taken by Mr. Ernest Ingersoll at Franklin Station, New London Co., Conn., in June, 1873,* and the only other New England records are from Southern Connecticut and Western Massachusetts. In a recent communication from Mr. F. T. Jencks, of Providence, R. I., he states that he first met with the Large-billed species in Johnson, R. I. on May 11, 1877, on a rocky stream running through what is known as the "Snake Dens," and probably the wildest spot within ten miles of the city of Providence. He then secured a pair, which were the only ones he had heard of being taken in the State. On May 2, 1879, while collecting along a rocky stream, thickly wooded with large trees, in West Greenwich, R. I., Mr. Jencks again heard the loud and striking song of the Water Thrush, and soon succeeded in shooting two males. About the middle of the same month he again visited this locality, and found a pair which were too shy to be taken; and in a similar place, some four miles distant, he found still another pair, which he was also unable to secure. Mr. Jencks writes that all these birds were seen along rocky trout-brooks, and in such localities he has never found them in company with their Short-billed cousins, who prefer comparatively still water, although he once shot one at Point Judith which was perched on a stone in the edge of the water bordering the ocean.

We have many inviting localities for the Long-billed Thrush, and doubtless ere long shall be able to add it to our rapidly increasing list of Eastern Massachusetts birds. — RUTHVEN DEANE, *Cambridge, Mass.*

NOTES ON SOME OF THE RARER BIRDS OF LONG ISLAND, N. Y.:—

1. *Siurus motacilla*, *Coues*. LARGE-BILLED WATER THRUSH. — A male was shot April 12, 1879.

2. *Contopus borealis*, *Bd.* OLIVE-SIDED FLYCATCHER. — I shot a male at Flushing, L. I., on May 24, 1872.

3. *Cathartes atratus*, *Less.* BLACK VULTURE. — A specimen of this Southern species was shot at Sandy Hook during the spring of 1877. It

* *Am. Nat.*, Vol. VIII, p. 238.

was feeding upon the carcass of a pig, and was easily approached. It is now in my collection.

4. **Falco sacer**, *Forst.* MCFARLANE'S GERFALCON. — Through the kindness of Mr. John Wallace I procured a handsomely-mounted specimen of this bird, which had been shot at Pond Quogue, Long Island, by William Lane, in 1877, and which was presented by Mr. Lane to a taxidermist at Riverhead, by whom it was mounted. This bird has been examined by Mr. George A. Lawrence and Mr. Robert Ridgway, and pronounced to be an adult male of this variety. The markings are very distinct, and much darker than those of a *Falco sacer* in the American Museum at Central Park, New York.

5. **Hæmatopus palliatus**, *Temm.* OYSTER CATCHER. — On May 28, 1877, I obtained a specimen of this bird, which had been shot in New York Harbor.

6. **Phalaropus fulicarius**, *Bp.* RED PHALAROPE. — In August, 1870, I received from Mr. E. Frame a fine specimen of this bird, which he had shot upon the meadows at Flushing, Long Island. I mounted the specimen, but did not note the sex. It was in immature plumage.

7. **Lobipes hyperboreus**, *Cuv.* NORTHERN PHALAROPE. — Shot two males of this species on August 20, 1879, while decoying Bay Snipe at Center Moriches, L. I., and a third specimen was taken by C. A. Willets, at Flushing, L. I., on September 29, 1879.

8. **Porzana jamaicensis**, *Cass.* BLACK RAIL. — A specimen of this bird was shot at Jamaica, Long Island, by a Mr. Simpson, during the spring of 1879. It is now in my collection. — ROBERT LAWRENCE, *New York City.*

THE LARGE-BILLED WATER THRUSH AT LAKE GEORGE, N. Y. — Mr. N. H. Bishop presented me with two skins, male and female, of the Large-billed Water Thrush (*Siurus motacilla*), which he and Mr. O. B. Lockhart captured at Lake George, N. Y., May 8, 1877, near a mountain stream. They acted as if they might be building. This is far north for this Southern bird. — A. K. FISHER, M. D., *Sing Sing, N. Y.*

CAPTURE OF THE CONNECTICUT WARBLER (*Oporornis agilis*) IN SPRING AT NEW HAVEN, CONN. — On May 30, 1879, I secured a female of this species, while collecting in a small tract of low second growth, not far from the city. They are very rarely taken in spring in this State, and are rare at any time. — GEORGE WOOLSEY, *New Haven, Conn.*

A NEW WARBLER (*Myiodiotes nigratus*) FOR MASSACHUSETTS. — For information regarding the first occurrence of the Hooded Warbler in Massachusetts I am indebted to Mr. Gordon Plummer, who writes me that an adult male of this species was taken by Mr. William Adair, who shot it from the highest branches of an oak-tree, in Brookline, June 25, 1879. This Warbler is abundant and breeds in Southern Connecticut, yet only a

single instance of its presence near the Massachusetts line has been noted, Mr. E. J. Shores having captured a specimen at Suffield, Conn. — RUTHVEN DEANE, *Cambridge, Mass.*

THE NORTHERN WAXWING (*Ampelis garrulus*) IN SOUTHERN ILLINOIS. — Professor S. A. Forbes, Director of the State Laboratory of Natural History, Normal, Illinois, communicates, under date of December 19, 1879, the following interesting note concerning the occurrence of this Northern species in Pulaski Co., Illinois (lat. a little over 37°), in the extreme southern part of the State. The most southern record, hitherto, for this species, east of the Rocky Mountains, is Fort Riley, Kansas (lat. $38\frac{1}{2}^{\circ}$), and, east of the Mississippi, the vicinity of Philadelphia (lat. 40°).^{*} Professor Forbes's note is as follows: —

"Perhaps the fact is worth reporting that I shot yesterday [Dec. 18, 1879] at Villa Ridge, Pulaski Co., a fine Bohemian Waxwing, *Ampelis garrulus*. The weather was warmish and wet. I saw no other specimen. I came down here chiefly for some Thrushes (Robins, Catbirds, etc.) with a view to study their winter food, but found the country at Cairo, Mound City, etc., almost deserted by them. They are reported by the people to have migrated South in November, apparently because there are no grapes in the bottoms this year." — ROBERT RIDGWAY, *Washington, D. C.*

THE BOHEMIAN WAXWING IN NORTHERN NEW YORK. — I am indebted to Mr. George A. Davis for information regarding the occurrence of these beautiful birds in Mexico, Oswego Co., N. Y.

He first discovered them January 31, 1880, about a mile from the lake shore, in a section of country where the mountain-ash was abundant. A flock of some two hundred birds were feeding on the berries, in company with the Cedar Birds, and he captured a number. On February 2, he again visited the same locality, and shot twenty-three specimens; this time no Cedar Birds were seen. After feeding, the flock would retire to a deep swamp, where they would remain until again hungry, when they would return until the berries were nearly exhausted.

Mr. Davis has never before seen the Waxwings in flocks in his locality, but shot a single specimen in 1876. In all, he shot seventy specimens; and out of some twenty-five which I examined, but few were in full adult plumage. Mr. Boardman writes me, that about a dozen birds in immature plumage were taken near St. Stephens, N. B., early in December, and that he has heard of them occurring all the way from Nova Scotia to Oregon, though I judge not in the southern parts of the New England and Middle States. — RUTHVEN DEANE, *Cambridge, Mass.*

BREEDING OF THE LOGGERHEAD SHRIKE AT CANTON, NEW YORK. — On July 23, 1879, I shot a specimen of the Loggerhead Shrike (*Lanius*

^{*} The most southern point to which the species has been traced is Fort Yuma, California, lat. $32\frac{1}{2}^{\circ}$.

luloricianus), in a pasture at Canton, Saint Lawrence Co., New York. On August 9, I saw a second specimen of the same species within a mile of the place where the first one was obtained, but I had no means of securing it.

The occurrence of these two at that season seems to indicate that a few of that species remain in the vicinity to breed. — LESLIE A. LEE, *Brunswick, Me.*

[The specimen above mentioned, as taken July 23, having been kindly sent to me for examination by Mr. Lee, I am able to state that it is a bird of the year, and could not have been many weeks out of the nest, a considerable portion of the nestling plumage being still retained. The specimen is also of interest from its decided approach to the *excubitorides* type, it differing not more from typical examples of this form from the semi-desert regions of the West than from the average Florida bird. (Cf. Merriam, Bull. Nutt. Orn. Club, IV, p. 55.) It also carries the range of the Loggerhead considerably north of the locality in Northern New York (Danville, Lewis Co.) whence it was recently reported by Mr. Merriam, *l. c.* — J. A. ALLEN.]

THE GREENFINCH (*Ligurinus chloris*) IN NORTHERN NEW YORK. — The following note regarding the *Ligurinus chloris* wild in America may be of interest to the readers of the Bulletin. I have in my collection an adult male of this beautiful species, which was taken by a young friend near the village of Lowville, Lewis Co., N. Y., March 19, 1878. It had probably escaped from some cage, but had been so long at liberty as to lose almost entirely all traces of confinement. Its plumage was in perfect condition, its muscles fully developed, seemingly rather unusually so, and in every way it appeared a very strong and hardy bird, notwithstanding the inclemency of the month in which it was taken. The friend who killed it said that it was alone, and that he did not hear any note from it. — ROMEYN B. HOUGH, *Ithaca, N. Y.*

[The specimen alluded to above was kindly sent me by Mr. Hough for examination. It was in perfect feather, and showed not the slightest indication of former captivity. Indeed, I have never seen a European example of the species so richly colored as the one in Mr. Hough's possession. — R. RIDGWAY.]

CAPTURE OF ESCAPED CAGE-BIRDS HAVING THE APPEARANCE OF WILD BIRDS. — The preceding note recording the capture of a specimen of the European Green Finch (*Ligurinus chloris*) in Northern New York, having the appearance of a wild bird, renders the present occasion an appropriate one to notice other similar occurrences. In every case the species are well known with us as hardy cage-birds of the Finch tribe, while at the same time their native habitat is so remotely situated that the probabilities of their having reached us without human aid are nearly *nil*.

In March, 1879, Mr. Leslie A. Lee, of Brunswick, Maine, sent me a

"strange Finch," taken in a swampy place a few miles from town, which he was unable to identify with any North American species. It proved to be the *Amadina rubronigra* of India, a species more or less a favorite as a cage-bird, and frequently imported by the bird-dealers. It had recently moulted, as was shown by a few feathers still not fully grown, and was consequently in fresh, unworn plumage, and had the appearance, to my correspondent, of a "wild bird." It is, of course, beyond the limit of probability that it was a natural wanderer from India.

Dr. Brewer has recently recorded (Proc. Bost. Soc. Nat. Hist., XX, 271) the capture, at South Scituate, Mass., "in midwinter," of a South African Finch (*Crithagra butyracea*). "Its plumage was clean and fresh, and the bird was in good condition." Yet Dr. Brewer does not suppose it was other than an escaped cage-bird, although it had when taken "all the appearance of a wild bird," nor does the supposition that it was a natural straggler from Africa seem for an instant tenable.

The European Goldfinch (*Carduelis elegans*) has been repeatedly taken in a wild state in Eastern Massachusetts; so frequently, in fact, that it has been conjectured that this hardy species may have become established here through fortuitous introduction. It being a common cage-bird, it seems probable that numbers may escape each year, while their hardy nature would easily enable them to maintain an existence here for a considerable period.

Mr. William Brewster informs me that he shot a pair, April 21, 1875, the female of which was found to contain eggs that would have been laid in a few days. They were very wild, and were not recognized till they had been shot. In addition to the many that doubtless escape every year from confinement, a considerable number were turned out, Mr. Brewster informs me, not long before this date, by the "Society for the Acclimatization of Foreign Birds." It is stated that some forty years ago Skylarks were turned out on Long Island. Skylarks and other European birds were set loose, some years ago, in Mount Auburn Cemetery, Cambridge, but are supposed to have all soon died. It is a matter of record (see *ante*, p. 114) that in 1853 a considerable number of pairs of Skylarks, Wood Larks, English Blackbirds, and other Thrushes, Robin-redbreasts, and Goldfinches were set at liberty in Greenwood Cemetery, New York, and that similar importations have been made to Cincinnati, and elsewhere in this country.

I have elsewhere recorded the capture of the Serin Finch (*Serinus meridionalis*) in Western Massachusetts in winter, and numerous cases of similar character might doubtless be easily cited; the chief interest of which lies in the fact of their showing that many of the hardier cage-birds, and especially those of the Finch family, are capable of maintaining an existence in a wild state for a considerable period in countries remote, and differing more or less in climatic and other conditions, from their native homes; and as indicating, furthermore, that if such species, or others of

similar habits, were once introduced here in numbers, they would soon become firmly established as extraneous members of our fauna, with perhaps little less readiness than has been the case with the European Field Sparrow (*Pyrgita montana*) at St. Louis, Mo. As is well known, two species of African Finches (*Estrilda melpoda* and *Spermestes cucullata*), introduced many years since to the island of Porto Rico, have multiplied to an excessive degree, while the report comes from New Zealand that quite a large number of British song and game birds, not long since introduced there, are already numerous and well established. The island of Mauritius, and the Sandwich Islands, as well as other places that might be mentioned, afford a similar record.

There seems to be one other noteworthy point in connection with the capture in this country of foreign species in an apparently wild state; namely, that a little caution should be exercised in respect to the nature of their occurrence, lest escaped cage-birds be entered on our lists as legitimate additions to our avian fauna. — J. A. ALLEN, *Cambridge, Mass.*

THE IPSWICH SPARROW (*Passerculus princeps*) AT NEW HAVEN, CONN. — I secured a fine male specimen of this species, November 22, 1879, while collecting along the shore at "South End," near New Haven. Two specimens were seen, but the other, probably its mate, escaped capture. The only other specimen of this bird that has been taken in this State, so far as I am aware, was taken by Mr. Merriam, at nearly the same place, and recorded by him in the Bulletin, Vol. I, p. 52. — GEORGE WOOLSEY, *New Haven, Conn.*

BREEDING OF THE SNOWBIRD (*Junco hyemalis*) IN THE MOUNTAINS OF PENNSYLVANIA. — About the middle of August last, while spending a short time at Ralston, Lycoming County, Pa., in the spurs of the Alleghanies, I found the common Snowbird (*J. hyemalis*) very abundant. Both adult birds and the young of the year were noticed, thus verifying the fact, already well established, of the Snowbird's breeding among the mountains of Northern Pennsylvania. — SPENCER TROTTER, *Philadelphia, Pa.*

THE FLAMMULATED OWL (*Scops flammeola*) IN COLORADO. — The following well-authenticated note, which appeared anonymously in the "Colorado Springs Gazette" of September 3, 1879, seems well worthy of a place in the Bulletin:—

"A gentleman who has been summering in Colorado, and who returned to Colorado Springs a few days ago from a trip South, brought with him a specimen of the *Scops flammeola*, or Flammulated Owl, which Mr. C. E. Aiken has mounted. This is a rare specimen, being the fourth that was ever taken in the United States. It was shot during the third week in August, 1879, near Mosca Pass, Colorado. It is regarded as one of the rarest of North American Owls, dispersed more generally, however, throughout Mexico and Central America. It has been obtained in the

United States upon only three previous occasions. The first knowledge of its occurrence north of old Mexico was furnished by Capt. John Feilner, who found it at Fort Crook, California. The second instance of its capture was by Dr. C. G. Newbery, near Camp Apache, Arizona, in 1873. The third, by Mr. C. E. Aiken, of this city, who found the bird sitting on its nest, with one egg, near Poncho Pass, Colorado, in 1875. This discovery threw the first light upon the breeding habits of the species. The egg, which is the only one known, is preserved in the National Museum, at Washington." (See also Deane, this Bulletin, Vol. IV, p. 188.)—ERNEST INGERSOLL, *New York City*.

CAPTURE OF THE GREAT GRAY OWL IN THE ADIRONDACKS, N. Y. — In March, 1879, a fine female of this rare Owl (*Syrnium lapponicum cinereum*) was shot in the Adirondacks by a guide, and forwarded to a gentleman in New York City. It arrived in poor condition and was not mounted, but a skin was made of it. This is, I believe, the first record of the occurrence of this bird in this State. The specimen is now in my collection. — ROBERT LAWRENCE, *New York City*.

CAPTURE OF THE NORTHERN PHALAROPE (*Lobipes hyperboreus*) IN MASSACHUSETTS. — Some time since I received a communication from Mr. C. C. Hitchcock, of Ware, Mass., noticing the capture of several birds new to that section. Among those recorded was the one above mentioned. I have recently written to Mr. Hitchcock for further particulars, as the record of this bird in a locality at such a distance from the coast is most surprising, when it is so comparatively rare even on the coast itself, being confined chiefly to the waters off shore; and I enclose his reply: "I had no doubt at the time of the capture of the Phalarope in regard to its identity; but to make sure I have again looked it up (as I have the bird in my possession), and find I was correct." The bill, he adds, is "not lance-shaped, and is under one inch." This fixes the identity of the species. The bird was taken October 13, 1875. — W. A. STEARNS, *Fishkill-on-the-Hudson, N. Y.*

ON THE SUPPOSED IDENTITY OF *Ardea occidentalis*, AUD., AND *A. würdemanni*, BAIRD. — Having learned that Dr. J. W. Velie, of the Chicago Academy of Sciences, had, during one of his collecting trips to Florida, obtained specimens of the Great White Heron (*Ardea occidentalis*, Aud.), I recently wrote him with a view of obtaining a specimen of this very rare bird for my own collection. In his reply to my letter he makes the very interesting, and, in view of certain curious facts which I had already brought to notice,* very suggestive statement, that in two instances, once in 1872, and again in 1875, he found about half-grown young, one each of *A. occidentalis* and *A. würdemanni*, in the same nest! This

* See Bull. U. S. Geol. and Geog. Surv. Terr., Vol. IV, No. 1, Feb. 5, 1878, pp. 229-237.

evidence is all that was needed to settle the question of the identity of the two forms in question, and there cannot now be any doubt that they represent two phases of one species, bearing to one another exactly the same relation as that between *Ardea rufescens*, Bodd., and *A. pealei*, Bonap. — ROBERT RIDGWAY, *Washington, D. C.*

THE LITTLE BLUE HERON IN RHODE ISLAND. — Although this rare accidental straggler from the South has been recorded as far north as the Massachusetts coast, yet its occurrence anywhere in New England is noteworthy.

Mr. F. T. Jencks informs me of the capture of a young specimen in white plumage, which was shot at Warwick, R. I., July 13, 1878, and brought to him for preservation. — RUTHVEN DEANE, *Cambridge, Mass.*

NOTE ON THE LITTLE BROWN CRANE (*Grus fraterculus*, CASSIN). — The small Brown Crane, described by Professor Baird in 1858 (P. R. R. Rep., IX, p. 656) as "*Grus fraterculus*, Cassin," appears to have been known thus far only from the single specimen collected at Albuquerque, New Mexico, by H. B. Möllhausen, in October, 1853. It therefore gives me pleasure to announce the capture of a second specimen by Dr. Edward Palmer, at the Hacienda Angostura, Rio Verde, Mexico, February 23, 1879, recently received at the Museum of Comparative Zoölogy. This specimen agrees in all essential points with the description of the type of the species; it is, however, slightly larger, and more nearly adult. As this species has been considered (see Cones's Key to North American Birds, p. 271; Henshaw, Rep. Geog. and Geol. Sur. W. 100th Merid., V, Zoöl., p. 467) as the young of *G. canadensis*, a brief comparison of the two forms may not be out of place. In general size *G. fraterculus* appears to be fully one third smaller than *G. canadensis*, and is about one fourth to one third less in linear measurements (the wing excepted), with the bill relatively much shorter and smaller, as shown by the following measurements, those given for *G. canadensis* being the average dimensions (in inches and hundredths) of a considerable series.

	Wing.	Tail.	Tarsus.	Mid Toe.	Bill.		
					Culmen.	Comm.	Height.
<i>G. canadensis</i> ,	22.00	9.00	9.50	4.10	5.60	5.75	1.15
<i>G. fraterculus</i> , {	* 17.50	6.80	7.50	3.36	3.04	3.16	.74
	† 18.00	6.90	6.70	2.95	3.30	3.65	.80

The only differences of moment between the two examples here referred to *G. fraterculus* is the somewhat greater length of the tarsus and middle toe, and the rather shorter and smaller bill of the Albuquerque specimen.

The chief difference in coloration between the two species consists in the crown and occipital region being reddish in both specimens of

* Measurements of the original specimen (S. I., No. 10,378), from Baird.

† Dr. Palmer's specimen (M. C. Z., No. 26,656), "female."

G. fraterculus, instead of ashy as in *G. canadensis*, and in the color of the wings. In *G. canadensis* the edge of the wing and the primaries are plumbeous brown, scarcely darker than the general color, with the *shafts of the primaries white*. In *G. fraterculus* the alula, edge of the wing, and the primaries are decidedly *black*, while the *shafts of the primaries are intense shining black*. The naked portion of the head is fully one third less in *G. fraterculus* than in the other, the feathered portion extending forward centrally as far as the middle of the orbits, instead of ending far behind them.

Dr. Palmer's specimen appears to be nearly adult, or to have at least nearly completed its first moult, there being only here and there a brownish-tipped feather indicative of immaturity. It is certainly mature so far as size is concerned, as the date of capture (February 23) would alone sufficiently indicate.

Dr. Palmer's note accompanying the specimen gives the species as a "winter resident" at the locality where it was taken. Whether the species is of frequent occurrence within the United States remains to be determined; yet, if at all common, it seems strange that it should have escaped the notice of the recent collectors, who have so thoroughly explored Southern Texas, Southern New Mexico, and the adjoining portions of Arizona, but less so when we take into account the difficulty of capture of these wary birds, and the fact that, if seen merely at a distance, the species might easily be mistaken for the larger *G. canadensis*, and its acquisition not considered of special importance. — J. A. ALLEN, *Cambridge, Mass.*

NOTES ON THE HABITS OF RALLUS OBSOLETUS, WITH A DESCRIPTION OF ITS EGGS. — I have found these birds abundant, at all seasons of the year, on the salt marshes of Oakland, San Mateo, and other marshes that are partially covered by the highest tides. At such times they may be shot by the dozen, as they sit upon floating drift-wood, the dead body of an animal, a fence, or, in one instance, a railroad bridge, from which they would not fly until nearly run into by an approaching train. Their tameness at all times, especially during the high tides, is remarkable. If obliged to fly, they start from either land or water as readily as a Duck. They swim well; but when wounded and closely pursued, they dive, and hold on to the marsh grass beneath the water to keep from rising.

The birds are close sitters, and not easily flushed; but when once started, they seem to fly as long as they have the power, sometimes alighting in the middle of a slough, as though unable to reach the opposite bank. The only note that I have known them utter is a harsh cackle, frequently heard at night. They commence breeding in April, selecting a high piece of marsh ground, usually on the bank of a slough, beneath a species of *Compositæ* common to the marshes. The nest is composed wholly of dry marsh grass, loosely laid together; here they deposit eight

or nine eggs, of a light creamy buff, spotted, often blotched, with reddish-brown and lavender markings, the latter appearing as if beneath the shell. Of some three dozen specimens examined by myself, all have the markings more numerous at the larger end; on some of them the lavender predominates.

A set of eight taken at San Mateo, April 24, 1879, contained small embryos. They measure respectively, 1.70×1.25 , 1.73×1.23 , 1.75×1.23 , 1.77×1.23 , 1.68×1.23 , 1.70×1.22 , 1.63×1.26 , 1.69×1.24 . The average measurements of thirteen eggs are 1.71×1.24 .

The worst enemies they have are the rats which infest the marshes; the collector will often come upon a nest containing only shells, the contents having been eaten by these rodents. — W. E. BRYANT, *San Francisco, Cal.*

AN UNUSUAL FLIGHT OF WHISTLING SWANS IN NORTHWESTERN PENNSYLVANIA. — An unusual flight of Swans occurred in Northwestern Pennsylvania, on the 22d of last March (1879), Crawford, Mercer, Venango, and Warren Counties being the places where they were seen. On the day mentioned, as well as the previous day and night, a severe storm prevailed, the rain and snow freezing as they fell. The Swans, on their migration north, were caught in the storm, and, becoming overweighted with ice, soon grew so exhausted that they settled into the nearest ponds and streams, almost helpless. Generally a single one was seen in some mill-pond or creek; and the fowling-piece, loaded with large shot, and not unfrequently the rifle, was used to bring to bag the noble game, though, considering the plight they were in, in all probability any one might have paddled up to the birds and taken them alive. In fact, in a number of instances they were reported as thus taken alive. Large flocks were seen in some districts in the same pitiable condition. In close vicinity of Meadville only two, I believe, were taken. Titusville and Oil City, and the intervening eighteen miles up Oil Creek and its branches, seem to have been the points where they were seen in greatest number. A published report from the former place states that "ten or twelve White Swans were captured alive" near East Titusville. The report from the Rouseville (three miles above Oil City, on Cherry Run) correspondent of the "Oil City Derrick," states: "A flock of from thirty-three to thirty-five American or Whistling Swans surprised the inhabitants of Plumer on Saturday forenoon by alighting in the waters of Cherry Run. One of the Swans was almost immediately shot at and killed, and, to the surprise of the now large crowd of men and boys, the remainder of the flock, on account of the ice accumulating on their wings, was unable to fly, and a general rush was then made for the poor birds, and twenty-five were captured alive by the eager fellows. Some have them yet alive, but many were killed for their feathers and flesh. The remaining eight or ten birds finally managed with great difficulty to arise; — one, however, soon

alighting in the midst of Rouseville Village, in Cherry Run, was soon killed by Dave Phillips, the balance flying a little further, alighting in Oil Creek. A general stampede of men and boys now took place, the greater part armed with some weapon of warfare; but Charley Clark, a noted sportsman and accurate shot, led the van, and was successful in laying over two of the splendid birds, and badly wounded a third, at the first shot. He afterward shot the third and a fourth, and the vociferous crowd returned to town, four men bearing the burdens of the victor's spoils. The larger of the birds shot by Clark was a magnificent creature, measuring fifty-one inches from tip of bill to tail, and eighty-six inches in extent, and weighing over sixteen pounds; it is said the one shot by Phillips was larger, weighing twenty pounds."

I think all were *Cygnus americanus*. I have never heard of *C. buccinator* being seen in this neighborhood. — GEORGE B. SENNETT, *Meadville, Pa.*

THE EUROPEAN WIDGEON IN THE UNITED STATES. — Although several captures of *Marca penelope* have been recorded for the United States, yet I do not think that it has been generally considered as occurring regularly on our coast. In a communication recently received from Mr. George O. Welch, of Lynn, Mass., he writes that in December, 1879, he received a male in perfect plumage, which was shot at Currituck, N. C., and that he receives one or more adult or immature birds from the same locality nearly every winter. He also states that they are well known to the gunners along the coast of Virginia, who suppose them to be a cross between the American Widgeon and Green-winged Teal. — RUTHVEN DEANE, *Cambridge, Mass.*

ON THE MOULT OF THE BILL, OR PARTS OF ITS COVERING, IN CERTAIN ALCIDÆ. — It is now about two years since attention was first called to the deciduous nature of portions of the bill, and the palpebral ornaments, in the Common Puffin (*Fratercula arctica*), by Dr. Louis Bureau, in a very interesting paper in the "Bulletin de la Société Zoologique de France" (1877, pp. 1-21, pll. iv, v), a translation of which, with notes, by Dr. Elliott Coues, was given in this Bulletin for April, 1878 (pp. 87-91). Having in mind Dr. Bureau's discovery, together with Dr. Coues's hint that "new inquiry into the various curious North Pacific species" might "yield up similar secrets," I gave this matter special attention during the past summer, while engaged in a study of the North American *Alcidæ*. The result of my investigations is the conclusion that a similar change from the breeding to the winter condition exists in the North Pacific species of *Fratercula* (*F. corniculata*), in *Lunda cirrhata*, *Ceratorhina monocerata*, the species of *Simorhynchus* (*S. cristatellus* and *S. pygmaeus*), and in *Ciceronia microceros*, but probably not in any other of the North Pacific forms, except, perhaps, *Phalaris psittacula* and *Ptychorhamphus aleuticus*. In *Fratercula corniculata* and *Lunda cirrhata*, the change is very much the same as in *F. arctica*, only the basal rim of the bill, and the nasal shield or saddle, being cast. In *Ceratorhina* the nasal

shield, together with the prominent vertical horn, are cast, the bird then becoming *C. "suckleyi."* In *Ciceronia microceros*, a similar but much smaller knob is moulted, when the bird becomes *C. "pusilla."* The change is most remarkable in *Simorhynchus*, in which, apparently, not only the conspicuous rictal plate, and greatly enlarged basal portion of the mandible, but also, apparently, the *entire sheath of the bill*, are moulted, the species in this stage being *S. "tetraculus"* (Pall.). Unfortunately, I have not been able to examine undoubted winter specimens of *Phaleris psittacula*, but as the bill is exceedingly simple (there being no accessory pieces) in this species, during the breeding season, it is quite possible, though hardly probable, that no change takes place.

It is a somewhat singular, and perhaps important circumstance, that in nearly every species in which this singular transformation of the bill takes place there is little if any change in the plumage, the colors and ornamental plumes of the breeding season being worn all the year round. On the other hand, in *Mergus alle*, and the species of *Synthliborhamphus*, *Brachyrhamphus*, *Uria*, and *Lomvia*, the bill is simple and entirely devoid of deciduous elements, while the seasonal change of plumage is very marked. This, however, is also the case in *Alca impennis* and *Uta mania torda*, in which there is an apparently deciduous basal maxillary lamina.

Besides the doubtful case of *Phaleris*, we are not sure as to *Ptycorhamphus aleuticus*. This has the bill more or less corrugated at the base, and this corrugation is undoubtedly more conspicuous in summer than in winter specimens. Both this species and *Phaleris psittacula* have an unvarying plumage, and on this account we are disposed to refer them to the group having a greater or less portion of the bill deciduous, without, however, having any better reason for doing so. — ROBERT RIDGWAY, Washington, D. C.

[Since the above was put in type, I find that in the announcement of the discoveries in question I have been anticipated by Dr. Louis Bureau, who treats of the subject in detail in a very important paper, entitled, "Recherches sur la Mue du Bec des Oiseaux de la Famille des Mormonidés," published in the "Bulletin de la Société Zoologique de France" (December, 1879, pp. 1-68). The species treated by Dr. Bureau are *Fratercula arctica* (including "des différentes formes que revêt le *Fratercula arctica* suivant les régions qu'il habite"), *F. corniculata*, *Lunda cirrhata*, "*Chimerina corvuta*" (= *Ceratorhina monocerata*), "*Ombria*" *psittacula*, *Simorhynchus cristatus*, and *S. kamtschaticus*. In *Phaleris psittacula* it seems that the nasal shield ("cuirasse nasale") alone is deciduous. — R. R.]

FURTHER LIGHT ON THE MOULT OF THE BILL IN CERTAIN MORMONIDÆ.* — When M. Bureau announced his great discovery, that the

* Recherches sur la Mue du Bec des Oiseaux de la Famille des Mormonidés par le Docteur Louis Bureau. Extract du Bull. de la Soc. Zool. de France, Paris, 1879. Svo. Pp. 68, pll. vi, and a map.

Puffin moults parts of its bill and eyelids, it was expected that he would follow up the matter with an investigation of other birds of the same family. This he has done in a highly satisfactory manner, with exactly the results that were anticipated. His original paper, published in the Bull. Soc. Zool. de France, 1877, we translated for the Nuttall Bulletin. It is now republished, in connection with the paper below cited, the two together forming under one cover a brochure which has just reached us through the courtesy of the author. As we are just closing this number of our Bulletin, we can only do this valuable paper the scanty justice of stating its principal results.

1. M. Bureau establishes for *Fratercula* and its allies a family *Mormonidae*, distinct from *Alcidae*. He finds *F. arctica* divisible into three forms, *armoricana*, *islandica*, and *glacialis*, the geographical distribution of which corresponds to certain isothermals.

2. *F. corniculata* moults the bill almost exactly as *F. arctica* does, the only difference being that one pair of small pieces falls in the latter, but not in the former.

3. *Lunda cirrhata* moults the bill in substantially the same pieces, lacking only the horse-shoe shaped piece encircling the base of the upper mandible. It has no moult of the eyelids. "*Sagmatorrhina*" is the young of this bird.

4. *Chimercina cornuta* (i. e. *Ceratorhina monocornuta*) moults the horn and another small piece. *C. "suckleyi"* is the young, and the adult in winter.

5. *Ombria psittacula* moults the nasal shield.

6. *Simorhynchus cristatellus* is the most like *Fratercula arctica*, as it moults four pairs of pieces (all the red parts of both mandibles). *S. "dubius"* is the adult in winter, after the moult. *S. "tetraculus"* is the young before the red horny pieces are developed.

7. *Simorhynchus camtschaticus* remains undetermined as to the moult. (It would appear to be most like that of *Ombria psittacula*.) *S. cassini*, Coues, is the young of the species.

8. *Simorhynchus microceros* moults the tubercle. *S. pusillus* (Pall.) is the same bird.

M. Bureau's determinations are thus without exception the same as those made by the writer in the "Key to North American Birds," in 1872.

This highly important paper is illustrated with six colored plates, showing the points very clearly, and a map of the distribution of the races of *Fratercula arctica*.

M. Bureau may be said to have entirely reformed our ideas of this interesting family.

A preliminary title-page of his brochure indicates that he may extend his fruitful studies to the moult or other changes of the bill of birds in general. We take the liberty of suggesting, as an inviting problem, the remarkable seasonal changes of size and shape alleged to occur in the bills of certain *Fringillidae*, notably the genus *Ergiothus*. — ELLIOTT COUES, *Washington, D. C.*

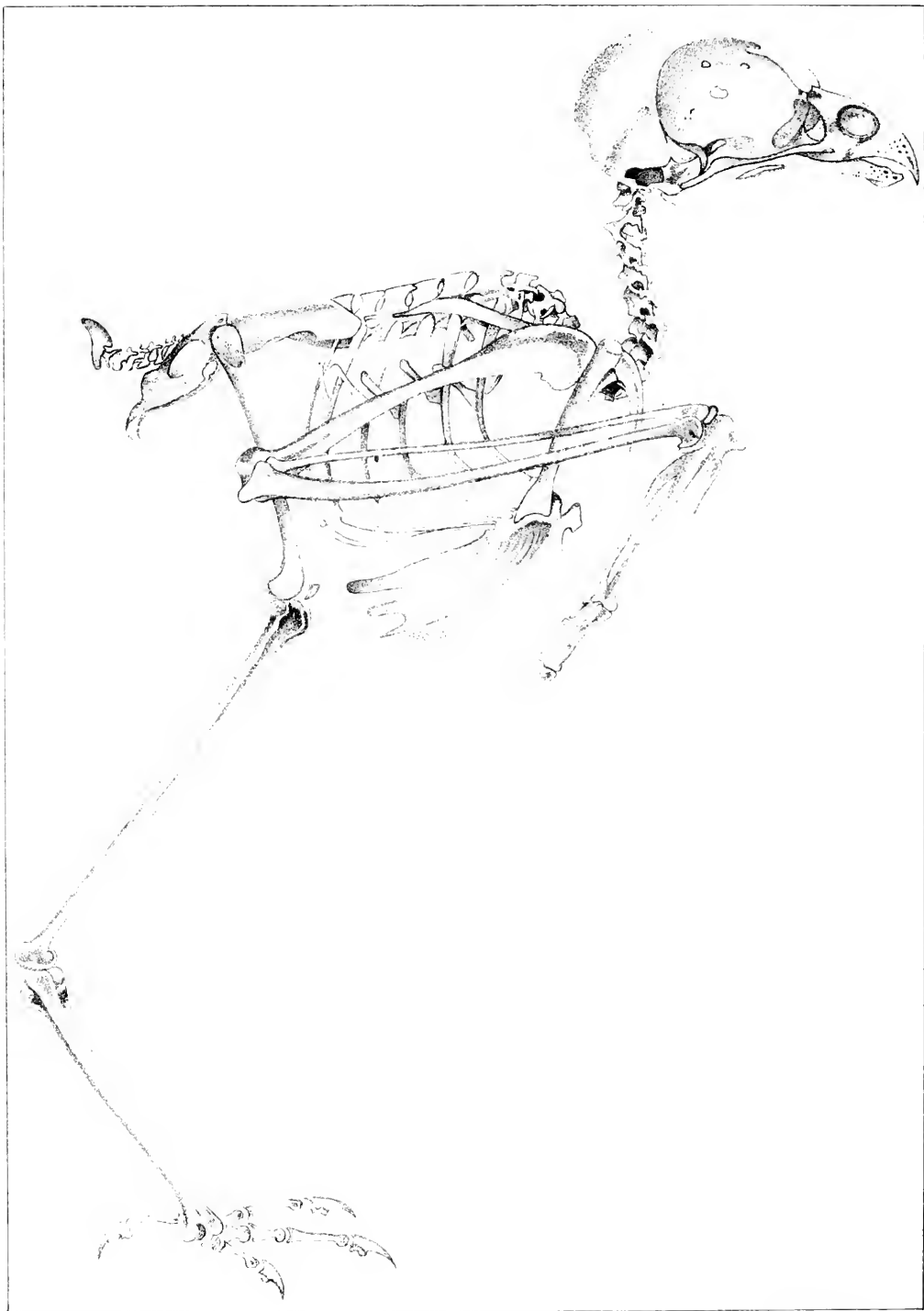
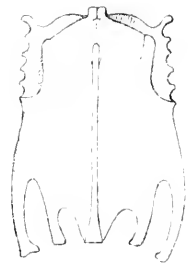
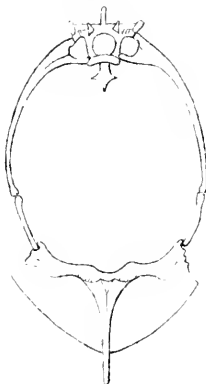
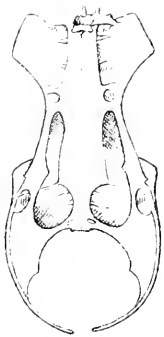
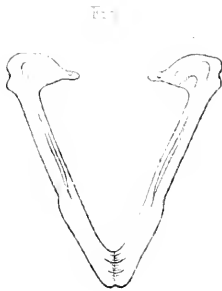
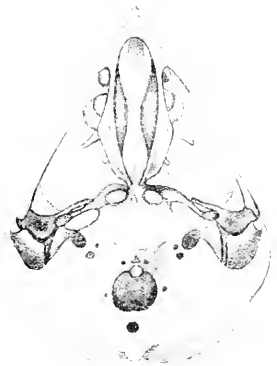


Photo. Van Dusen, N. Y. N. 1915

SKELETON OF SPEOTYTO CUNICULARIA VAR. HYPOGÆA.



OSTEOLOGY OF SPEOTYTO CUNICULARIA VAR. HYPOGÆA.

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No. 3.

SHUFELDT'S MEMOIR ON THE OSTEOLOGY OF *SPEOTYTO CUNICULARIA HYPOGÆA.*

BY DR. ELLIOTT COUES, U. S. A.

DR. R. W. SHUFELDT, of the U. S. Army, has sent me his Memoir on the Osteology of the Burrowing Owl,—an extended and very elaborate paper, describing the skeleton of this species in great detail. This contribution was not prepared for the Bulletin of the Nuttall Club, occupying as it does far more space than could be given in this periodical to any single article; and I shall doubtless be able to make arrangements for its publication in full in another connection, as originally designed by the author. Meanwhile, however, I have the pleasure of presenting to the readers of the Bulletin the three plates illustrating the article, engraved by Thomas Sinclair and Son, of Philadelphia, from the original drawings made by the author, together with the explanation.

Dr. Schufeldt has applied himself with great zeal and assiduity to the anatomy of this bird, designing to exhibit, from original dissections, the entire structure of the species. To judge from the osteological study already completed, an exhaustive treatise on the subject will result from the author's researches.

EXPLANATION OF THE PLATES.

Plate I.

The skeleton of *Speotyto cunicularia hypogæa*.

Plate II.

The skull, sternum, pelvis, etc.; natural size.

Fig. 1. The skull, from above.

Fig. 2. The skull, from below.

Fig. 3. The mandible, from above.

Fig. 4. The pelvis, from below.

Fig. 5. The sternum, from below.

Fig. 6. Transverse section of thorax, showing a dorsal vertebra, with the corresponding pair of ribs, and corresponding section of the sternum.

Plate III.

Various bones of the skeleton.

Fig. 7. Anterior view of skull, the lower mandible having been removed.

Fig. 8. *H*, humerus; *i*, ulnar tubercle; *i'*, oblique tubercle for radius and ulna; *h*, radial crest; *SA*, *S' A'*, scapular arch; *S* and *S'*, scapula; *C* and *C'*, clavicle; *Cr* and *Cr'*, coracoid; *f*, perforating foramen.

Fig. 9. *H'*, humerus; *h''*, radial crest; *pf*, pneumatic foramina; *SA''* and *SA'''*, scapular arch; *S''* and *S'''*, scapula; *C''* and *C'''*, clavicle; *Cr''* and *Cr'''*, coracoid; *f'*, perforating foramen.

Fig. 10. *HA*, hyoid arch; *a*, superior view of atlas; *a'*, the same viewed laterally; *b*, the axis; *o*, its odontoid process.

Fig. 11. Right carpus of *Bubo virginianus*, outer aspect, with the bones composing it moved partly from their normal positions to show articulating surfaces; *rd*, radius; *ul*, ulna; *s*, scaphoid; *c*, cuneiform; *m*, metacarpus; *d*, index digit.

Fig. 12. Right radius and ulna, *Speotyto*, inner aspect; *u*, ulna; *r*, radius; *y*, articular facet for oblique tubercle of humerus; *y'*, for ulnar tubercle of humerus.

Fig. 13. The same bones, inferior surface, when in position and the wing closed; *r'*, radius; *u'*, ulna.

Fig. 14. Posterior surface, right metacarpus. The differences in form and position of such portion of the articular surface in the metacarpus as is shown by *z* and *z'* in Figs. 11 and 14 between *Bubo* and *Speotyto* are here seen: flat and rounded below in the first, prominent and pointed in the second.

Fig. 15. Anterior surfaces, right tibia and fibula; *F*, fibula; *T*, tibia.

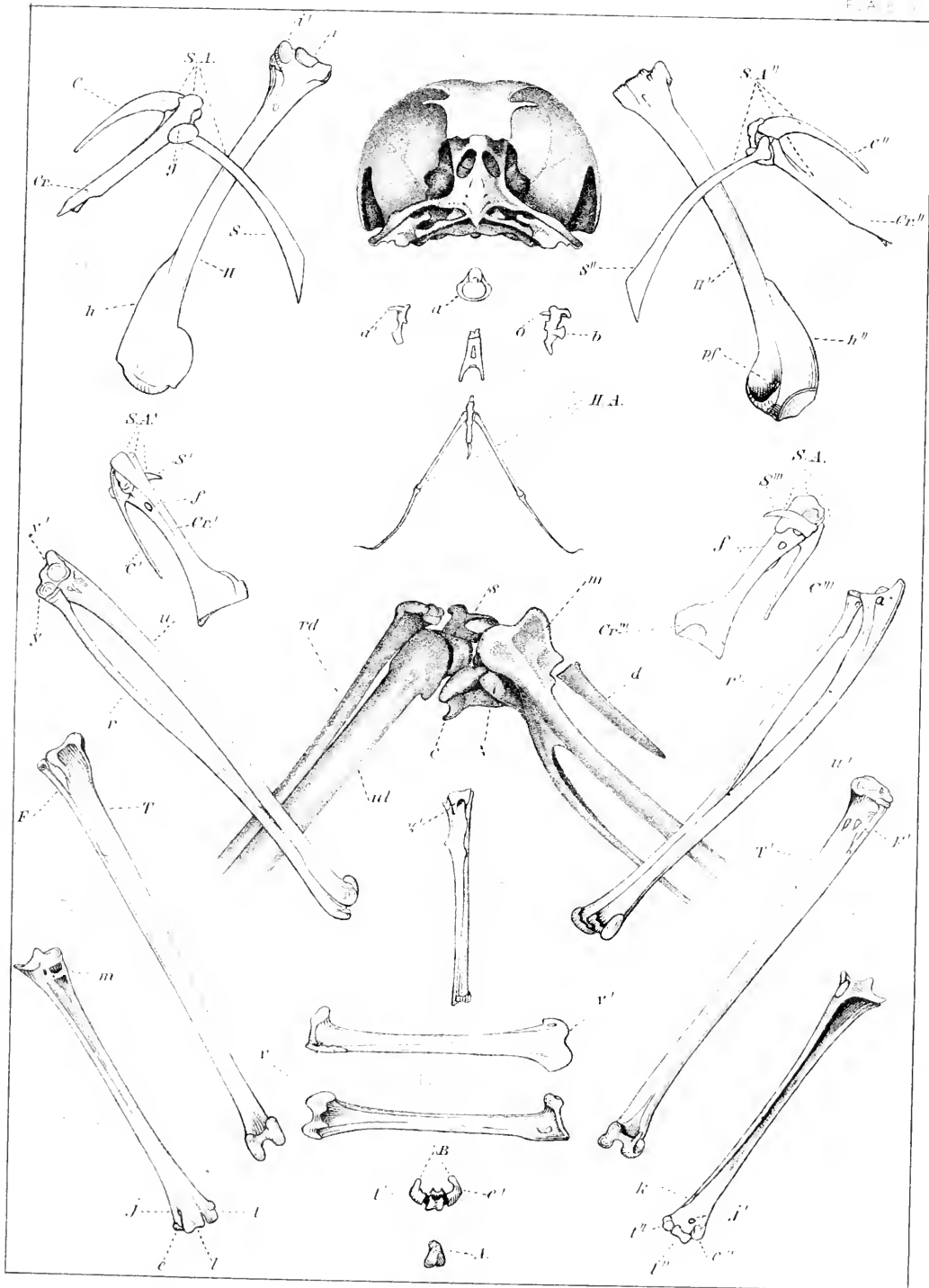
Fig. 16. Posterior surfaces, same bones; *F'*, fibula; *T'*, tibia.

Fig. 17. Right femur; *v*, posterior surface; *v'*, anterior surface.

Fig. 18. Anterior surface, right tarso-metatarsus; *m*, bony bridge over tendons; *j*, foramen for anterior tibial artery; *e*, facet for outer toe; *l*, for middle; *t*, for inner toe.

Fig. 19. Posterior surface of same bone; *j'*, the foramen for the anterior tibial artery; *e''*, facet for outer toe; *l''*, for middle, and *t''* for inner toe; *k*, facet for os metatarsale accessorium.

Fig. 20. *A*, right os metatarsale accessorium, superior surface; *B*, base, or inferior surface, of right tarso-metatarsus; *e'*, facet for outer toe; *i'*, for middle, and *t'* for inner toe. The section of the shaft shows just above the middle facet, on the posterior aspect, ranging near the middle third of the bone.



OSTEOLOGY OF SPEOTYTO CUNICULARIA VAR HYPOGÆA.

DESTRUCTION OF BIRDS BY LIGHT-HOUSES.

BY J. A. ALLEN.

THAT multitudes of birds are killed during their migrations by flying against the lanterns of light-houses and light-ships is well known, at least to ornithologists and keepers of light-stations. In respect to this country, however, no general account of such fatalities and the circumstances under which they occur has been made, although considerable attention has lately been given to the matter by British naturalists, with special reference to the migration of European birds.* Some years since, Mr. Ruthven Deane sent out letters of inquiry to various light-keepers on our own coast for the purpose of eliciting information respecting the general subject of birds striking the lights; and the replies received by him, which he has recently placed in my hands, form the basis of the present article, abstracts of which are here presented. In many cases the information is rather meagre, as would be naturally expected, owing to the inability of the reporters to recognize the species of birds that are destroyed by the lights, or to appreciate just the nature of the information required; yet their replies contribute something of value respecting the frequency of such occurrences and the circumstances attending them. Not only are our thanks due to these observers for their kindness in transmitting reports, but I am especially under obligations to Mr. Deane for placing these results at my disposal. There is, however, little to be said on the matter beyond what the abstracts themselves present.

1. *Wood Island Light*, near entrance to Saco harbor, Me. A flashing red light; height above sea level, 62 feet. Albert Norwood, keeper. Report dated March 4, 1877. — Of late years very few birds have flown against the light; during the last four years not more than 30 or 40 have been thus killed. They usually strike during foggy weather, in August and September.

2. *Egg Rock Light*, near the entrance of Frenchman's Bay, Mount Desert, four miles from Bar Harbor, Me., and two miles from any head-

* See especially the "Report on the Migration of Birds in the Autumn of 1879." By John A. Harvie-Brown and John Cordeaux. *Zoölogist*, May, 1880, pp. 161 - 204. Also the literature there cited relating to the subject.

land. A fixed red light; height, 76 feet. A. H. Wargatt, keeper. March 29, 1880. — From the 15th of April till the 15th of May the largest number of birds strike the light; the greatest number observed in one night is 23. Among those recognized are the Bluebird, the "Apple Bird" (*Ampelis cedrorum*, as shown by the writer's description), the Scarlet Tanager, and "Sparrows." They strike in very dark nights, seldom in fair weather. During thick weather in May, 1879, there were large numbers of small birds of different kinds about the light. "During the five years I have been at this station I have never known the Sand Birds or Peeps to fly against the light."

3. *Cape Ann Lights*, three fourths of a mile from Cape Ann, Mass. Two fixed white lights; height, 165½ feet. Albert W. Steele, keeper. March 6, 1877. — Very few birds are killed by flying against the light except in May and June, when a "Swamp Sparrow" comes about the light, and is sometimes killed. "Have known 6 to be killed in one night." Occasionally a sea bird is killed, — not more than 3 or 4 in a year.

4. *Marblehead Light*, Marblehead Neck, Mass. Fixed white light; height, 43 feet. James S. Bailey, keeper. April 1, 1877. — Very few birds strike the light. At one time 3 small ones were found dead outside the light. They are never around except in foggy nights. No damage has been done by birds striking for the last five years.

5. *Minot's Ledge Light*, Cohasset, Mass. Fixed white light; height, 92 feet. Levi L. Creed, keeper. May, 1877. — "Sea and land birds of all kinds come about the light in fall and spring, and all kinds of land birds in summer if the weather is foggy or smoky. As many as 10 have been picked up at one time on the walk, but I think hundreds are killed and fall in the water."

6. *Plymouth Light*, Gurnet Point, Plymouth, Mass. Fixed white light; height, 102 feet. William Sears, keeper. March 22, 1877. — Bluebirds and "Ground Sparrows" reported as quite often picked up dead around the light-house, but no further particulars are mentioned.

7. *Race Point Light*, northwesterly point of Cape Cod, Mass. Fixed white light, varied by white flashes; height, 51 feet. James Cashman, keeper. March 15, 1877. — "There never have been, to my knowledge, any birds killed by flying against the light."

8. *Long Point Light*, entrance to Provincetown Harbor, Mass. Fixed white light; height, 37 feet. — The keeper of this light recently told me that birds very rarely fly against it.

9. *Cape Cod Light*, Highlands, North Truro, Mass. Fixed white light; height, 195 feet. David F. Loring, keeper. March 5, 1877. — "Now no sea birds fly against the light, as was the case in former years, except occasionally a Petrel, or Mother Carey's Chicken, and a small bird called by the fishermen 'Bank Bird' (the latter said to resemble 'Shore Birds or Peeps'). These never come except in driving easterly storms, when they are occasionally very plenty. Two hundred are sometimes seen at

one time, a few of them now and then killing themselves by flying against the glass. They come mostly from the last of September till the middle of October. As many as 20 have been seen dead at one time. The large sea birds, as Ducks, Coots, etc., do not now come near the light, as they used to, which may be because they are not as plenty as formerly. Nearly all the different species of small land birds come about the light, but the Sparrows seem to take the lead in striking it. Frequently in the fall of the year we pick up 8 or 10 in the morning outside the light; the cats get a great many that fall on the ground. A great many birds alight on the window-frames outside the lantern, and sometimes stay there all night, fluttering against the glass, trying to get inside to the light. The light partially blinds them, as they allow themselves to be taken in the hand. These birds are the most numerous in September and October. A great many Plovers, it is said, used to fly against the light, but have not done so during the four years I have been here."

10. *Hyannis Light*, Hyannis, Mass. Fixed white light; height, 42 feet. Alonzo F. Lothrop, keeper. March 28, 1877.—As this is a low light, situated almost within the village, the water-fowl pass too high to strike it, none having been known to fly against it.

11. *Succunnessett Shoals Light-ship*, 14 miles west of Hyannis. A fixed white light; height, 40 feet.—The writer of the report last given states that when he was at this light-ship, a few years prior to 1877, Ducks and Coot in the fall, and more particularly in November, would strike the light, sometimes breaking the glass, and fall on deck.

12. *Sandy Neck Light*, entrance to Barnstable Harbor, Mass. Fixed white light; height, 59 feet. Jacob S. Howes, keeper. March 13, 1877.—During the previous year and a half, one Night-Heron and a few Sparrows were the only birds killed by striking the light.

13. *Cape Poge Light-house*, northeast point of Martha's Vineyard, Mass. Fixed white light; height, 57 feet. E. Worth, keeper. March 23, 1877.—Have kept this light-house eleven years, during which time a dozen birds may have been killed by flying against it, chiefly in the fall when migrating. Those recognized are 1 small Owl, 1 Night-Heron, 1 Woodpecker, and a number of "Flycatchers" and "Sparrows."

14. *Point Judith Light*, southern point of Narragansett shore, R. I. Flashing white light; height, 67 feet. Joseph Whaley, keeper. April 5, 1877.—"I seldom find any birds dead; sometimes 8 to 10, and others crippled; chiefly Yellowbirds in the fall months and in foggy weather. This light is not high enough for water-fowl to strike it."

15. *Block Island Light*, northern extremity of Block Island. Fixed white light; height, 204 feet.—The writer of the last report states that his son, who keeps the light on Block Island, informs him that it is sometimes struck by Brant and other sea-fowl.

16. *Montauk Point Light*, extreme east end of Long Island, N. Y. Fixed white light varied by white flashes; height, 172 feet. N. A. Bab-

cock, keeper. April 7, 1877. — A few small birds fly against the lantern in summer.

17. *Navesink Light*, Highlands of Navesink, N. J. Fixed white light; height, 248 feet. Daniel P. Caulkins, keeper. March 24, 1880. — "Have kept this light for only eighteen months. Robins and Woodcocks are found dead from flying against it. Also one Duck, which came with such force as to break the glass. Found most frequently in heavy weather, with the wind southeast or east, during the winter months, sometimes a dozen or more in a night."

18. *Cape May Light*, Cape May, N. J. Flashing white light; height, 152 feet. Samuel Stillwell, keeper. March 25, 1880. — Reports that great numbers of small birds of all kinds strike the light in spring. Sometimes as many as 200 are seen dead on the ground at one time. The kinds especially mentioned are "Chipping Birds," Robins, Catbirds, Flickers, Red Birds, and Sparrows. Sometimes the light is struck during heavy storms by Black Ducks and various kinds of sea-fowl, but not nearly so often as formerly. The light is a very powerful revolving light.

19. *Cape Hatteras Light*, N. C. Flashing white light; height, 191 feet. N. P. Jennett, keeper. April 20, 1877. — Snipe are killed by flying against the light in April and September; 60 to 75 frequently found dead at one time. Curlews and Willets, and two other kinds of shore birds called "Pebos" and "Sea-chickens," occasionally strike the light during the months of June, July, and August, seldom more than one or two in a night. The "Marsh Hen" now and then strikes the light at all seasons of the year. About September 1, Teals strike the light, sometimes as many as 8 in one night. The "Myrtle Birds" come on only one night in the year; this is in September. They come in great numbers, 200 to 300 being sometimes killed in one night. Other birds unknown to the reporter are also occasionally found dead, but by far the greater number consist of Myrtle Birds* and Snipe. In this connection the following may be quoted from a letter by Professor Baird, published some time since in the "American Sportsman" newspaper:—

"On the night of October 17, 1876, I was on the top of Cape Hatteras light-house. It was a very dark night, and 'misting.' The wind was blowing thirty-five miles an hour from the northeast. As soon as it was fairly dark, I could see thousands of small birds flying around the leeward of the tower. It was a grand sight, as the lens of the light would perform its steady revolution, throwing its dazzling rays upon them while seeking shelter by hovering close up under the lee of the tower. As soon as the light would fall upon them, they would fly from it and come in contact with the lantern with such force that they were in-

* The Myrtle Birds, here and elsewhere mentioned in these abstracts, may embrace other species of the genus *Dendroica* than the *D. coronata*, to which this name usually pertains.

stantly killed. At one time the whole element was ablaze with them, shining in the rays of light like myriads of little stars or meteors. The moon arose by ten o'clock, which afforded them light to go on their way South (for they were coming from the North and going down the coast South). I do not think one bird stopped alone, or went into the woods at all, as not one was seen, for I particularly noticed. After the moon was up, one of the birds came striking the lantern glass. I went out and gathered from the balcony of the watch-room and lantern three hundred and fifty dead birds, besides one hundred and forty that were picked up the next morning off the ground at the foot of the tower, which had been blown off the balconies. They were a species known here as 'myrtle bird,' or 'winter yellow' bird. They are about the size of the sparrow, with gray back and yellow breast. They are excellent food."

20. *Hunting Island Light*, S. C. (entrance of St. Helena Sound). Flashing white light; height, 136 feet. S. B. Wright, keeper. March 30, 1877. — "The birds killed by flying against the tower embrace nearly all kinds of Ducks and sea-fowl, and of wood and marsh birds. They are mostly killed in the fall and early winter, but are found dead at intervals all winter. During the past winter we have obtained in this way but few Ducks, Teal, Widgeon, and Coot. During several successive nights in October we gathered a peck of large fat Rice-birds each night, and there were hundreds of other varieties lying around the tower dead or wounded. Our cats and hogs had all they could eat. This was during a severe gale of northeast wind and rain. During stormy nights in winter there are often hundreds of birds roosting on the wire netting around the light."

21. *St. Augustine Light*, St. Augustine, Fla. Fixed white light, varying with white flashes; height, 165 feet. W. A. Harn, keeper. April 10, 1877. — Reports that on the nights of October 13, 14, and 15, 1876, "the lantern was covered with birds, most of them small." The nights were very dark, and, as far as could be seen by the beam of light, the air appeared to be a solid mass of birds. Each morning the keepers raked up more than *two bushels* of dead birds. The ground in the vicinity of the light was covered with dead and wounded birds. Says the reporter: "I can hardly give a correct idea of the number, but there must have been more than a million. The air was so thick with birds on these nights that I had to protect my face with my hat to keep them from blinding me." The largest number of birds come here in October and November. "White Cranes" (Egrets?), Curlews, and "many other species," are stated to fly against the light.

22. *West Rigolets Light*, entrance to Lake Pontchartrain, La. Fixed white light; height, 30 feet. — Mr. H. W. Henshaw writes, under date of March 20, 1880, respecting a visit made by him to this light some years ago: "I was unfortunate in not happening to be at the light during or just subsequent to a storm, and as a consequence I reaped but scanty benefit from the loss of bird life that occurred. Nor can I give a list of the

species that were killed or maimed. The keeper was kind enough to save a considerable number of birds for me, but owing to hot weather they spoiled before my arrival. . . . A large number of the birds flying before the wind are guided to the light-house by the rays from the lantern, and do not fly against the glass, or at least do not do so with sufficient force to injure themselves. On the contrary, they beat about and flutter against the glass like moths, and finally perch on the railings or descend to the shrubbery. The keeper's plan was for me to station myself, insect net in hand, on the leeward side of the light during one of the dark, foggy storms, and scoop in the small birds. He asserted that I could get a hundred or two easily in a good night. In fact, he said he had seen the ground covered with dead birds in the morning following a storm, the boys collecting them and wounded ones by the score. On one occasion the keeper caught a number of birds that had suffered only slight injury and kept a half-dozen caged until I arrived. The Hooded and Prothonotary Warblers, Yellow-throated Vireo, Indigo-Bird, Savanna Sparrow, etc., were among them. However, the list of birds that suffer from this light would include almost or quite every species that occurs there, excepting possibly the Raptores. The Ducks, and even Pelicans, fly against it, — in fact, the glass was once shattered by a Duck flying against it at full speed, as has been the case at many other lights on our coast. The history of birds striking the Rigolets Light is, in fact, repeated, with more or less change, at all the lights on our coast, and indeed on all coasts, *during the migrations.*"

23. *Alcatraz Light*, Alcatraz Island, harbor of San Francisco, Cal. Fixed white light; height, 166 feet. J. T. Huie, keeper. April 4, 1880. — "During the nineteen months I have been at this light no birds of any kind have flown against it."

24. *Fort Point Light*, harbor of San Francisco, Cal. Fixed white light; height, 83 feet. — The reporter for Alcatraz Light states that during the seven years he kept the Fort Point Light no birds came against it.

Birds during their migrations are well known to alight on vessels, sometimes in considerable numbers. The following remarkable instance, reported in the Boston newspapers of May 17, 1877, is of special interest in the present connection, and worthy of permanent record: — "The steamer 'Glaucus,' which arrived at this port from New York last night, brought a few more passengers than her manifest warranted, the vessel having been invaded by a large flock of forest birds in her passage through the Sound. On Tuesday night, while steaming along the Long Island coast, the air was found to be alive with the feathered songsters. . . . Attracted by the steamer lights, the birds came crashing against the masts, the shock killing large numbers, and causing them to fall to the deck in showers. Four live birds and 168 dead ones were picked up from the deck; how many fell into the Sound, nobody can tell. Of the live birds, two still remain in possession of the officers; the others flew to land when off this

port. . . . There were thirteen varieties in the lot, including the Brown Thrush, Bobolink, Catbird, and others usually found in New England. Two weeks ago the 'Glaucus' was boarded by a Canvas-back Duck, that came in collision with one of the lanterns, and the day following roast duck was added to the *ménu*." Another account states that "during five hours they continued to drop on the vessel, she going at the time full twelve knots per hour, and multitudes of the poor creatures must have perished in the water." The night is said to have been very dark, the air being thick with smoke from forest fires on Long Island, and on this account the reports of the incident assume that the birds were driven from their forest homes by the fires, while in reality they were on their northward migration, as the season and the direction of flight evidently show.

The few particulars given in the foregoing reports from 24 light-stations (only about one twentieth of the whole number supported by the United States), indicate that birds strike against the lanterns only in thick or foggy weather, and during the migrations, conforming in this respect, as would be expected, with observations made at other points. By far the greatest number of fatalities from this cause happens during protracted easterly storms. When these occur, particularly at southerly points, during the fall migration, the destruction amounts often to hundreds of individuals at each light in a single night, embracing apparently all the species then migrating. The reports from a few stations seem to indicate that birds are liable in foggy weather to strike the lights at any season of the year, but usually only a few, in comparison with the number that come in contact with the same lights in fall and spring. Only a few birds visit any of the above-mentioned lights (17 in number) situated north of Cape May, no fatalities being reported from several, while the keepers of the lights south of Cape May report uniformly a great destruction of bird life. The Cape May Light is the first on the list at which great numbers of birds are killed; at the Cape Hatteras, Hunting Island, St. Augustine, and Rigolets Lights the destruction is far greater, the keepers of the last-named lights reporting that hundreds are sometimes killed in a single night at each of these lights. This seems to show pretty conclusively that the southern light-stations are far more destructive to birds than the northern ones are. From this, together with the fact that "bird-nights" occur when there are heavy easterly storms, it would seem that at the southward many birds, particularly the smaller kinds, take a more off-coast route than they do at the northward. The

information now at hand seems to throw very little light on the routes of birds during their migrations, and fails to show satisfactorily what species most frequently strike the lights (although it is evident that nearly all do so to a greater or less extent), or what the exact conditions are that lead to such disastrous results. These data we can scarcely hope to obtain till opportunity favors observation by competent ornithologists; and it seems hardly necessary to urge such to take the trouble to investigate this interesting subject whenever circumstances may render it practicable. From the responses received by Mr. Deane (from some twenty light-keepers out of about sixty to whom letters of inquiry were addressed), much valuable information may doubtless still be obtained through the kind attentions of these agents.

The foregoing shows that the destruction of birds by light-houses on the coast of the United States must amount to many thousands annually. Adding to these the number killed by flying against vessels, of which the case of the "Glaucus" already cited affords an example, and the vast number undoubtedly destroyed by being blown out to sea and drowned,* the elements, aided by man, appear to exercise a powerful check upon the increase of bird life.

ON *RALLUS LONGIROSTRIS*, BODD., AND ITS GEOGRAPHICAL RACES.

BY ROBERT RIDGWAY.

ALTHOUGH, as rightly determined by Messrs. Selater and Salvin (cf. P. Z. S., 1868, p. 442), the oldest name of this species is *Rallus longirostris*, Bodd., the birds to which this name is strictly applicable are so different from those from other portions of America, referred by the above authors to the same species, that it appears necessary to recognize by name several geographical races. Comparing the South American bird (true *longirostris*) with the small and very dark-colored Gulf Coast form here named *saturatus*, the differences are indeed more striking than between *longirostris* in any of its forms and *R. elegans*, yet the latter is undoubtedly a distinct species.

* On the destruction of birds from drowning see two items in this Bulletin (Vol. V, pp. 44 and 192) in relation to inland waters, which are doubtless far less fatal than those of the oceans.

The Pacific Coast bird, described by me in 1874 (cf. Am. Nat., VIII, p. 111) as "*R. elegans* var. *obsoletus*," proves to be a true "Clapper" Rail, strictly confined to the salt-water marshes; and were it not for the very wide interval of territory separating it from any race of *R. longirostris*, it might be classed as a form of the latter species. In view of its complete isolation, however, taken together with its peculiar characters of coloration and form, it seems best to regard it as a distinct species.

In the following synopsis are included not only *R. longirostris* and its races, but also all the other known North American members of the genus.

A. Size large (wing more than 5 inches).

a. Axillars and flanks dusky or reddish umber, with broad white bars (bars about .15 of an inch wide on the flanks), or narrow reddish-white and pale cinnamon bars.

1. *R. elegans*. Back and scapulars ochraceous-olive, or yellowish-drab, sharply and conspicuously striped with black; breast deep cinnamon.

a. var. elegans. Flanks and sides dusky-brownish, widely and distinctly barred with pure white. Wing, 5.90–6.80; culmen, 2.12–2.50; least depth of bill, .27–.35; tarsus, 2.20–2.40; middle toe, 1.80–2.10. *Hab.*, freshwater marshes of Eastern North America.

b. var. tenuirostris.* Flanks and sides reddish-umber, narrowly and indistinctly barred with reddish-white and dilute cinnamon; breast and neck more deeply and uniformly cinnamon than in *elegans*. Wing, 5.90; culmen, 2.00–2.10; least depth of bill, .22; tarsus, 1.80–1.90; middle toe, 1.70. *Hab.*, Mexico (Mazatlan, and city of Mexico).

b. Axillars and flanks brownish-gray or grayish-brown, with narrow white bars (about .10 of an inch wide on flanks).

2. *R. obsoletus*.† Back and scapulars grayish-olive, indistinctly striped with dusky; breast, deep cinnamon. Wing, 6.40–6.60; culmen, 2.25–2.50; least depth of bill, .32–.35; tarsus, 2.10–2.25; middle toe, 2.00–2.15. *Hab.*, salt-water marshes of California.

3. *R. longirostris*. Back and scapulars light hair-brown, brownish-gray, or ashy, obsoletely striped with brown (in Gulf-Coast specimens distinctly striped with dusky, much as in *R. obsoletus*); breast pale buff or dull cinnamon.

a. var. longirostris. Above olive-gray, distinctly striped with van-

* *Rallus elegans tenuirostris*, LAW. R.

Rallus elegans var. *tenuirostris*, LAW. R., Am. Nat., VIII, Feb. 1874, p. 111 (city of Mexico).

† *Rallus obsoletus*, RIDGW.

Rallus elegans var. *obsoletus*, RIDGW., Am. Nat., VIII, Feb. 1874, p. 111 (coast of California).

dyke-brown; breast deep buff or pale cinnamon. Culmen, 1.90–2.10; least depth of bill, .35–.40; wing, 5.20–5.50; tarsus, 1.75–1.85; middle toe, 1.75. *Hab.*, northern coast of South America (Cayenne to Bahia).

b. var. crepitans. Above ash-gray, the stripes usually obsolete; if distinct, light olivaceous and not well defined; breast buff, paler (usually whitish) centrally, and shaded with gray across the jugulum. Culmen, 2.10–2.50; least depth of bill, .22–.28; tarsus, 1.85–2.10; middle toe, 1.70–2.00. *Hab.*, salt-water marshes, Atlantic coast, U. S.

c. var. caribæus. Colors of *longirostris*. Culmen, 2.12–2.50; least depth of bill, .25–.30; tarsus, 1.95–2.10; middle toe, 1.80–1.95. *Hab.*, West Indies.

d. var. saturatus. Above olive-gray or ashy broadly striped with brownish-black; breast dull cinnamon. Culmen, 2.10–2.45; least depth of bill, .22–.28; tarsus, 1.95–2.00; middle toe, 1.75–1.80. *Hab.*, Louisiana.

B. Size small (wing less than 4.50 inches).

4. *R. virginianus.* Colors almost exactly as in *R. elegans*, but usually more intense. *Hab.*, the whole of North and Middle America (except Arctic regions), south to Guatemala and Cuba.

Following are the principal references to *R. longirostris*, including the several races defined in the above synopsis:—

***Rallus longirostris*, BODDAERT, CLAPPER RAIL.**

a. var. longirostris, BODD.

Rallus longirostris, BODD., Tabl. P. E., 1783 (based on *Râle à long bec, de Cayenne*, BUFF., Pl. Enl., 849).

Rallus crassirostris, LAWR., Ann. Lyc. N. Y., X, Feb., 1861 (in text; Bahia).

b. var. crepitans, GMEL.

Rallus crepitans, GMEL., S. N., I, ii, 1788, 713 (based on *Clapper Rail*, PENN., Aret. Zool., ii, 1781, No. 407). — WILSON, Am. Orn., VII, 1813, 112 (descr., but not the plate!). — NUTT., Man., ii, 1834, 201. — AUD., Orn. Biog., III, 1835, 231, pl. 214; Synop., 1839, 215; B. Am., V, 1842, 165, pl. 310. — BAIRD, B. N. Am., 1858, 747; Cat. N. Am. B., 1859, No. 553.

“*Rallus longirostris*” (nee BODD.) SCL. & SALV., P. Z. S., 1868, 442 (part). — COUES, Key, 1872, 273; Check List, 1873, No. 465; B. N. W., 1874, 536 (excl. syn. part).

c. var. caribæus, RIDG.

“*Rallus crepitans*” and “*R. longirostris*,” Auct. (all West Indian references).

Rallus longirostris caribæus, RIDGW., MS.

d. var. saturatus.

Rallus longirostris saturatus, HENSHAW, MS.*

* Types in Mr. Henshaw's collection.

LIST OF OCCURRENCES OF NORTH AMERICAN BIRDS
IN EUROPE.

BY J. J. DALGLEISH.

(Continued from p. 74.) *

XXV. **Nauclerus furcatus** (L.). SWALLOW-TAILED HAWK.

Great Britain. 1. One, Balachulish, Argyllshire. Dr. Walker, *Adversaria*, 1772, p. 87; 1774, p. 153. Yarrell's Br. B., 4th ed., I, 102.) **1772.**

2. One, Shawgill, Cumberland. Sims, *Trans. Linn. Soc.*, XIV, 583. **6 Sept., 1805.**

3. One, Bishop of Winchester's Park, Farnham, Surrey. Holme, *Zoöl.*, 1856, 5042. **Summer, 1833.**

4. One, shot on Mersey River. Field, 22 June, 1861. Harting, *Hand-book Br. B.*, p. 89. **June, 1853.**

[One, Eskdale, Cumberland. Robson, *Zoöl.*, 1854, 4156 and 4406. This one is considered doubtful by Newton in 4th ed. Yarrell's Br. B. *April*, 1853.]

XXVI. **Astur atricapillus** (Wilson). AMERICAN GOSHAWK.

Great Britain. 1. One, Schiehallion, Perthshire. Gray, *Ibis*, 1870, p. 292. In coll. of A. Hogg. **Spring, 1869.**

2. One, an adult male, Galtee Mountains, Tipperary. Sir V. Brooke, *Ibis*, 1870, p. 538. **Feb., 1870.**

* Errata in Part I:—

Page 71, line 26, for "Dr. Dewen" read "Dr. *Dewar*."

Page 72, line 8, for "Hensborg" read "*Flensburg*."

I regret to find that, owing to pressure of time and other business towards the completion of the manuscript, I have, in the first part of this paper, committed a somewhat inexcusable oversight, and for which I have to apologize to Professor Newton and the readers of the Bulletin.

In giving the occurrence of the Cedar Bird at Stockton-on-Tees (*Bull.*, p. 70), as recorded by Professor Newton in the *Zoöl.*, 1852, p. 3507, I have overlooked a subsequent note by him, at p. 537 of Vol. I of Yarrell's Br. B., 4th ed., in which he expresses his belief that there is no good authority for upholding his previous record, in the "*Zoölogist*." This species must therefore fall, to be deleted from the list of North American visitors to Europe.

I have also erroneously stated, with regard to the recorded instances of the appearance of the American White-winged Crossbill (*Bull.*, p. 71), that "Prof. Newton in the 4th ed. of Yarrell's Br. B. only mentions Nos. 1, 3, and 7 of the above instances, without referring to the others." I find that he has referred to the others, to Nos. 2, 4, and 6 in his note to p. 212, and to No. 5 in his note to p. 220, of Yarrell's Br. B., Vol. II, 4th ed.

3. One, an adult female, Parsonstown, Kings County, shortly after the last. A. B. Brooke, *Zoöl.*, 1870, p. 2524. **1870.**

XXVII. **Falco candicans**, *Gm.* GREENLAND FALCON.

Great Britain. 1. One, Aberdeenshire. Pennant, *Tour in Scotland*. 1772, p. 292. ?*

2. One, Pembrokeshire. Yarrell, *Br. B.*, p. 39. ?

3. One, Port Eliot, Cornwall. Rodd, *List Br. B.*, 2d ed., p. 6. (*Harting, Hand-book Br. B.*, p. 85.) ?

4. One, The Lizard, Cornwall. Rodd, l. c. (*Harting, l. c.*) ?

5. One, Bungay Common, Suffolk. Hunt, *Brit. Ornithology*. (*Harting, l. c.*) ?

6. One, South Uist Island, Invernesshire. Gray, *B. W. of Scot.*, p. 20. ?

7. One, Dechmont, Lanarkshire. Gray, l. c. **1835.**

8. One, near York. Hancock, in lit. to Thompson, *Nat. Hist. Ire., Birds*, I, p. 31. **Feb., 1837.**

9. One, County Donegal. Thompson, l. c. **Feb., 1837.**

10. One, Islay Island, Argyllshire. Gray, l. c., fide Hancock. **Feb., 838.**

11. One, County Donegal. Thompson, *Nat. Hist. Irel., Birds*, I, p. 31. **1842.**

12. One, Ballina, County Mayo. Thompson, *Nat. Hist. Irel., Birds*, III, p. 434. In coll. Mr. Waters. **Dec., 1847.**

13. One, Beeston, Norfolk. Stevenson, *B. of Norf.*, I, p. 8. **Feb., 1848.**

14. One, Trimmingham, Norfolk. Buxton, *Zoöl.*, 1851, pp. 2983 and 3028 (where name of locality is misprinted). **Nov., 1851.**

15. One, Robin Hood's Bay. Roberts, *Zoöl.*, 1855, p. 4558. **Nov., 1854.**

16. One, North Uist Island, Invernesshire. Gray, *B. W. of Scot.*, p. 21. **1860.**

17. One, Foss, Perthshire. Gray, op. cit. In coll. of E. C. Newcome, of Feltwell Hall, Brandon. **Spring, 1862.**

18. One, male, Kildalton, Islay Island, Argyllshire. Gray, op. cit. **Autumn, 1862.**

19. One, a male, near Elgin. Gray, op. cit. In coll. of Mr. Gray. **Autumn, 1862.**

20. One, Shetland. Saxby, *Zoöl.*, 1863, p. 8484. **18 Feb., 1863.**

21. One, County Dublin. Blake Knox, *Zoöl.*, 1863, p. 8523. **Spring, 1863.**

22. One, Shetland. Saxby, *Zoöl.*, 1866, p. 288. **3 March, 1866.**

23. One, Islay Island, Argyllshire. Elwes, in lit. to Harting, l. c., p. 85. **1867.**

* The mark of interrogation standing after a record indicates that the date of capture is unknown.

24. One, near Belmullet, County Mayo. Warren, Zool., 1877, p. 234. In coll. Dublin Nat. Hist. Soc. **Winter, 1868.**

25. One, Beaulieu, Invernesshire. Gray, in lit. to Harting, op. cit. **1871.**

26. One, near Killala, County Mayo. Warren, Zool., 1877, p. 234. In coll. of A. E. Knox. **3 April, 1875.**

27. One, male, found dead, Llanbedr Mountain, N. Wales. Rocke Zool., 1876, p. 4919. **March, 1876.**

28. One, trapped alive, Argyllshire. Charbonnier, Zool., 1876, p. 4954. **20 April, 1876.**

Iceland. 1. One, a male, in coll. of H. E. Dresser. Dresser, B. of E., pt. 51-52. ?

Spitzbergen. 1. One, old, nearly white male, in coll. of Herr A. Benzon, Copenhagen. * Dresser, l. c. (Benzon, in lit.) **July, 1861.**

Obs. — This bird has been so frequently confounded with its allies, *Falco gerfulco* and *Falco islandicus*, that it is impossible, according to Dresser (B. of E.), to state with certainty whether it has ever occurred on the continent of Europe, but it is doubtful. One is recorded near Néron, Dept. of L'Ain, France, in Bouteille, Ornith. du Dauphiné; but Degland and Gerbe (Orn. Eur., I, p. 73) consider it very doubtful whether it was this species, and no date is given.

XXVIII. *Buteo lineatus* (Gm.). RED-SHOULDERED HAWK.

Great Britain. 1. One, Kingussie, Invernesshire. Newcome, Ibis, 1865, p. 549. In coll. of E. C. Newcome, Feltwell Hall, Brandon. **26 Feb., 1863.**

[*Archibuteo sancti-johannis*, Gray. BLACK HAWK.

Great Britain. Obs. — A specimen recorded (Mathew, Zool., 1876, pp. 4814, 4870) as obtained in North Devonshire proved to be a melanism of *Buteo lagopus*, the European Rough-legged Buzzard. (Zool., tom. cit., p. 4901).]

XXIX. *Haliaëtus leucocephalus*, Sav. BALD EAGLE.

Sweden. 1. One, killed about thirty years ago, hitherto unrecorded. Dr. Vouga, in lit. In coll. of Capt. Vouga, at Cortaillod, Vaud. ?

Obs. — The above instance may be considered as the only authentic occurrence of this bird in Europe. Temminck (Manuel d'Ornith., Vol. I, p. 52) cites two captures, — one that of an old male in the Canton of Zurich, Switzerland, and the other a very old female in Würtemberg, and also mentions its occurrence in the Lofoten Islands, Norway (Man., Vol. III, p. 27), while Degland and Gerbe (Orn. Eur., Vol. I, p. 42) mention one said to have been killed at Postawy, in Russia. The latter authors also refer to this species two "with heads and shoulders pure white, like the tail," recorded by Nordmann (Faune Pontique, p. 99), from Southern

Russia. Those of Temminck have, however, generally been considered as very doubtful, while the instances mentioned by Degland and Gerbe seem also to require confirmation, as it seems that, in some instances at least, this species may have been confounded with *H. albicilla*, the European White-tailed Eagle, some authors having described it as nesting in the North of Europe, where evidently the latter was referred to.

XXX. *Ectopistes migratorius*, Sw. PASSENGER PIGEON.

Great Britain. 1. One, Monimail, Fifeshire. Fleming, Hist. Br. Animals, p. 145. (Harting, Hand-book Br. B., p. 128.) **31 Dec., 1825.**

2. One, near Royston, Herefordshire. Yarrell, Br. B., II, p. 317. **July, 1844.**

3. One, Tralee, Ireland. Thompson, Nat. Hist. Ire., Birds, III, p. 443. **1848.**

4. One, seen at Tring, Herefordshire. Yarrell, l. c. ?

5. One, near Mellerstain, Berwickshire. Turnbull, B. of East Lothian, p. 41.* (Harting, l. c.) **1869.**

6. One, at Mulgrave Castle, Yorkshire. Hancock, Nat. Hist. Trans. Northum. and Durh. (Harting, Zool., 1877, p. 180.) **12 Oct., 1876.**

Norway. Obs. — Temminck mentions occurrences of this species in Norway and Russia, without giving particulars.

Austria. 1. One, near Vienna. Bree, B. of E., 1st ed., I, p. 182, fide Brehm. ?

[*Ortyx virginianus*, Bonap. AMERICAN PARTRIDGE.

The only European occurrences recorded of this species have been of those in Great Britain, where it can only be regarded as an introduced species, several having been turned down, by various individuals, from time to time.]

XXXI. *Charadrius virginicus*, Bosc. AMERICAN GOLDEN PLOVER.

Heligoland. 1. One, obtained by Herr H. Gätke. Gätke, J. f. O., 1856, p. 72. Cordeaux, Ibis, 1875, p. 184. **Dec. 20, 1847.**

Mr. Seebohm considers that this species has probably crossed Siberia from Alaska where it is found.

Malta. Obs. — One, recorded from Malta, by Strickland (Ann. and Mag. Nat. Hist., V, p. 40) proved to be *C. fulvus*, Gm., the Asiatic Golden Plover.

XXXII. *Ægialites vocifera* (L.). KILLDEER PLOVER.

Great Britain. 1. One, Knapp Mill, near Christchurch, Hants. Selater, Ibis, 1862, p. 275. **April, 1857.**

* A gentleman in Berwickshire had, previous to this capture, turned out a few Passenger Pigeons.

XXXIII. **Gallinago wilsoni** (*Tem.*). WILSON'S SNIPE.

Great Britain. 1. One, Taplow Court, Bucks. Harting, Hand-book Br. B., p. 143. **1 Aug., 1863.**

XXXIV. **Macrorhamphus griseus** (*Gm.*). RED-BREASTED SNIPE.

Great Britain. 1. One, Devonshire. Montague, Orn. Dict. **Oct., 1801.**

2. One, Devonshire. Moore, Mag. Nat. Hist., 1837, p. 320. ?

3. One, near Carlisle. Yarrell, Br. B., III, p. 47. **25 Sept., 1835.**

4. One, Yarmouth. Stevenson, B. of Norf., II, p. 348. (Harting, Hand-book Br. B., p. 144.) In coll. of J. H. Gurney. **Autumn, 1836.**

[5. One, Yarmouth. Hoy, Ann. Nat. Hist., 1841, p. 236. (Stevenson, B. Norf., II, p. 349. Harting, l. c.) Considered doubtful by Stevenson. *Oct., 1841.*]

[6. Four, near Newport, Isle of Wight. Bury, Zoöl., 1845, p. 931. (Harting, l. c.) Considered doubtful by Harting. *1842.*]

7. Two seen, one killed, Horsey, Norfolk. Gurney, Zoöl., 1846, p. 1374. **9 Oct., 1845.**

[8. One, Point of Ayr, Isle of Man. Hadfield, Zoöl., 1856, p. 5251. This occurrence is considered by Dresser, in his *Birds of Europe*, to be doubtful. *1847.*]

9. One, on the Thames, near Battersea. Harting, B. of Middlesex, p. 195. (Id., Hand-book Br. B., l. c.) In coll. of Mr. Bond. ?

10. One, Scilly. Rodd, Zoöl., 1857, p. 5832; 1863, p. 8848. **Oct., 1857.**

11. One, Kingsbridge, Devonshire. Nicholls, Zoöl., 1858, p. 5791. **1857.**

12. One, Sands, near Banff. Edward, Zoöl., 1858, p. 6269. **25 Sept., 1858.**

13. One, on the Brent, Stonebridge, Middlesex. Harting, B. of Middlesex, p. 195. (Id., Hand-book Br. B., l. c.) In coll. of J. E. Harting. **Oct., 1862.**

14. One, Dumbarnie Links, Largo, Fifeshire. Gray, B. of W. of Scot., p. 314. (Harting, Hand-book Br. B., l. c.) ?

15. One, on the Clyde. Gray, Ibis, 1870, p. 292. ?

France. 1. One, from flock of five, in Marsh of Hoc, near Havre. Degland and Gerbe, Orn. Europ., II, 174. ?

2. Two, Picardy; seen by Degland and Gerbe in Paris Market. D. and G., l. c. ?

OBS. — This species was recorded by Nilsson as obtained in Sweden, but is omitted in a later edition of his work as an error. Although somewhat foreign to the object of this paper, it may be mentioned that this species has been recorded recently from near Jakutsk, in N. E. Siberia, by Taczanowski, in *J. f. O.*, 1873, p. 112.

XXXV. **Ereunetes pusillus** (L.). SEMIPALMATED SANDPIPER.

Great Britain. 1. One, Marazion Marsh, Cornwall. Rodd, Zoöl., 1854, p. 4297. In coll. of Mr. Vingoe. **10 Oct., 1853.**

2. One, Northam Burrows, Devon. Rodd, Field Newspaper, 23 Oct., 1869. (Id. in Zoöl., 1869, p. 1920; Richards, Zoöl., 1870, p. 2025.) In coll. of M. S. C. Richards, Clifton. **Sept., 1869.**

XXXVI. **Tringa maculata**, Vieillot. PECTORAL SANDPIPER.

Great Britain. 1. One, Breydon Harbor, Yarmouth. Hoy, Mag. Nat. Hist., 1837, p. 116. (Yarrell, Br. B., III, p. 82.) **17 Oct., 1830.**

2. One, Annet, Island Scilly. Rodd, Zoöl., 1843, p. 141. **27 May, 1840.**

3. One, Hartlepool. Yarrell, op. cit. **Oct., 1841.**

4. One, Gwyllyn Vase, near Falmouth. Cocks, Contrib. Faun. Falmouth, in Naturalist, 1851, p. 137. (Harting, Hand-book Br. B., p. 140.) ?

5. One, Teesmouth. Rudd, Naturalist, 1853, p. 275. (Harting, l. c.) **Aug., 1853.**

6. One, near Yarmouth. Gurney, Zoöl., 1853, p. 4124. **30 Sept., 1853.**

7. One, Coatham, near Redcar, Yorkshire. Rudd, Naturalist, 1853, p. 275. (Harting, l. c.) **17 Oct., 1853.**

8. One, near Whitby, Northumberland. Bold, Zoöl., 1855, p. 4808. **27 June, 1855.**

9. One, Northumberland coast. Harting, l. c. ?

10. One, Caistor, near Yarmouth. Stevenson, B. of Norf., II, p. 368 (Harting, l. c.) **16 Sept., 1865.**

11. One, Don Mouth, Aberdeen. Gray, B. W. of Scot., p. 321. (Harting, l. c.) **2 Oct., 1867.**

12. One, Terrington Marsh, near Lynn. Stevenson, op. cit. (Harting, l. c.) In Lynn Museum. **9 Jan., 1868.**

13. Three, Scilly. Rodd, Zoöl., 1870, p. 2346. **Sept., 1870.**

14. One, Eastbourne. Harting, l. c. **Sept., 1870.**

15. One, Thorpe, near Aldeburgh, Suffolk. Hele, Field Newspaper, 15 Oct., 1870. (Harting, l. c.) **5 Oct., 1870.**

16. Two, Braunton Burrows, North Devon. Richards, Zoöl., 1871, p. 2808. **12 Sept., 1871.**

OBS. — Two besides the above have been recorded, both, however, in error; one, near Yarmouth, Sept., 1848, Gurney, Zoöl., 1849, p. 2392, which proved to have been an imported skin, and one, near Ulceby, Lincoln, 12 Oct., 1863, Morris, Field Newspaper, Nov. 7, 1863, which proved to be a small specimen of *Machetes pugnax*, the Ruff.

None are recorded from the Continent of Europe, but Degland and Gerbe mention, fide Schlegel, that in the Museum of Natural History of Holland there is a specimen labelled by Temminck as killed in Europe. (Orn. Eur., II, p. 200.)

XXXVII. ***Tringa bonapartii*, Schleg.** BONAPARTE'S SANDPIPER.

Great Britain. 1. One, Stoke Heath, Shropshire. Eyton, Fauna of Shropshire, Ann. Nat. Hist., II, p. 53; Yarrell, Br. B., III, p. 79. ?

2. One, Ireland. In Belfast Museum. Yarrell, op. cit. ?

3. Two, Hayle, Cornwall. Rodd, Zoöl., 1846, p. 1554. In coll. of the late Mr. Rodd. **13 Oct., 1846.**

4. One, Scilly. Rodd, Zoöl., 1854, p. 4512. **Oct., 1854.**

5. One, Kingsbury, Middlesex. Harting, B. of Middlesex, p. 273. In coll. of H. E. Dresser. **1856.**

6. One, near Bex Hill, Sussex. Kent, Zoöl., 1859, p. 6537. In coll. of J. H. Gurney. **8 Oct., 1857.**

7. Two, Scilly. Rodd, Zoöl., 1870, pp. 2384, 2409. **Oct., 1870.**

8. Four, Instow, North Devon. Smith, Zoöl., 1870, p. 2409; Mathew, Zoöl., 1871, p. 2441. In colls. of Cecil Smith and Rev. M. A. Mathew. **Nov., 1870.**

9. One, Eastbourne, Sussex. Bates, Zoöl., 1871, p. 2442. In coll. of J. H. Gurney. **12 Nov., 1870.**

XXXVIII. ***Totanus semipalmatus*, Hartl.** WILLET.

France. 1. One, near Abbeville. In coll. of M. Lamotte. Degland and Gerbe, Orn. Eur., II, p. 234. ?

2. Two, obtained in the Paris Market, among game exposed there. Degland and Gerbe, l. c. ?

Obs. — Nilsson, Brehm, and other authors, mention the occurrence of this species in Sweden, in winter plumage, but give no further particulars. Gould, also, in his B. of E., mentions that he has the skin of a specimen killed in Europe, from Prof. Lichtenstein, of Berlin, but is ignorant of the locality. Salvadori, in Fauna d' Italia, Uccelli, p. 218, mentions, only to discredit it, the record by Risso, in his Natural History, etc. of Nice, the regular occurrence of this species in that neighborhood.

XXXIX. ***Totanus flavipes*, Gmelin.** YELLOW-LEGS.

Great Britain. 1. One, Misson, Lincolnshire. Yarrell, Br. B., II, p. 637. **Winter, 1854-55.**

2. One, near Tadeaster. Sir W. Milner, Zoöl., 1858, p. 5958. **Oct., 1858.**

3. One, Marazion, Cornwall. Rodd, Zoöl., 1871, p. 2807. **12 Oct., 1871.**

XL. ***Totanus solitarius*, Wilson.** SOLITARY SANDPIPER.

Great Britain. 1. One, on the Clyde, Lanarkshire (some years ago). Gray, Ibis, 1870, p. 292. In Hunterian Mus., Glasgow. ?

XLI. ***Tringoides macularius*, L.** SPOTTED SANDPIPER.

Great Britain. 1. Two, near Belfast. Marshall, Mag. Nat. Hist., 1829, p. 395. **July and Sept., 1828.**

2. One, near Whitby. Milner, *Zoöl.*, 1849, p. 2455; Higgins, *tom. cit.*, p. 2456. **29 Mar., 1849.**

3. One, Kingsbury Reservoir, Middlesex. Harting, *Birds of Middlesex*, p. 180. In coll. of Mr. Bond. ?

4. Two, Warrington, Lancashire. Smith, *Notabilia of the Mersey District*, p. 51. (Harting, *Hand-book Br. B.*, p. 139.) **May, 1863.**

5. Two, Eastbourne, Sussex. Harting, l. c. (Gurney, *Rambles of a Naturalist*, p. 261.) One in coll. of J. H. Gurney. **Oct., 1866.**

6. Two, Aberdeen. Gray, *B. of W. of Scot.*, p. 299. (Harting, l. c.) **Aug., 1867.**

Obs. — Mr. J. H. Gurney (*Rambles of a Naturalist*, p. 255) has carefully investigated all the recorded British instances of the occurrence of this species, and he states his belief that the above are the only ones which appear authentic; those which follow being divided into two classes, — those which are doubtful, and those which have proved to be mistakes.

1st. *Doubtful instances*: — 1. One, Bewick, *Br. B.*, 1st ed., II, p. 111. ?

2. One, near Montrose. Macgillivray, *Br. B.*, IV, p. 358. ?

3. One, near Bridlington, Yorkshire. *Zoöl.*, 1848, p. 2147. *Mar., 1848.*

4. Several, near Brighton. Cavafy, *Naturalist*, 1854, p. 234. ?

5. Two, marked "Sussex" in Sale Cat. of Coll. of Mr. Byne, of Milligan Hall, near Taunton. Gurney, *tom. cit.*, p. 258. ?

6. One, Formby shore, near Liverpool. Byerly's *Fauna of Liverpool*, p. 19. (Harting, *Hand-book Br. B.*, p. 139.) ?

7. One, Epworth, Lincolnshire. Hudson, *Zoöl.*, 1864, pp. 9046, 9290. *Feb., 1864.*

8. Two, near Retford. Gurney, l. c. ?

9. Two, Kentish coast. Harting, l. c. (for one); Gurney, l. c. ?

10. One, near Margate. In coll. of Mr. Gurney, Sen., Gurney, l. c. ?

11. One, Mildenhall, Suffolk. Tuck, *Zoöl.*, 1871, p. 2684. *1869.*

2d. *Erroneous records*: — 1. One, Essex. Edwards, *Gleanings in Nat. Hist.*, VI, p. 139. ?

2. One, Yarrell, *Br. B.*, 1st ed., II, p. 545.

3. Two seen, Shetland. *Zoöl.*, 1844, p. 462; probably Dunlins, Saxby, *B. of Shet.*, p. 195. *1844.*

4. One, Bishops Auckland. Duff, *Zoöl.*, 1849, p. 2499. Proved to be a Green Sandpiper. Hancock, *B. of Northum. and Dur.*, p. 123. *April, 1849.*

5. One seen at Bishops Auckland. Duff, *Zoöl.*, 1851, p. 3036. Also proved to be a Green Sandpiper. Hancock, l. c. *3 June, 1850.*

6. One, on the Tees; Hogg, fide Grey, *Zoöl.*, 1845, p. 1173. Also a Green Sandpiper. Gurney, l. c. ?

7. One, County Durham. Sharp's *Hist. of Hartlepool*, App., xvii. A mistake. Gurney, l. c.

8. One, Cumberland. Robson, *Zoöl.*, 1854, p. 4166. A mistake. Gurney, l. c.

9. One, Scarborough. Yorkshire Post Newspaper, Miscell. Notes for 1867. Mistaken identity. Gurney, l. c. ?

10. One, near Worthing, Sussex. Gurney, l. c. ?

11. One, near Wick. Proc. R. Phys. Soc. Edin., II, p. 339. Proved to be a Redshank. Gurney, l. c. ?

Belgium. Obs.—Baron de Selys-Longchamps mentions in lit. its doubtful occurrence.

Germany. Obs.—Temminck and Naumann mention its occurrence in Germany, but the former gives no particulars, and the latter merely says, “has only been killed a few times on the Rhine and Maine.” (Vög. Deutsch., VIII, p. 41.) Temminck also states, without further information, its appearance in the Baltic provinces (Man., II, p. 656).

Italy. Obs.—Salvadori gives an account, quoted from Ninni’s Catalogue of the Birds of Venice, of a supposed colony of this species near Venice; but, while admitting that a stray specimen may at times occur, he denies the probability of any colony existing (Fauna d’Italia, Uccelli, p. 217).

XLII. *Actiturus bartramius*, Bon. FIELD PLOVER.

Great Britain. 1. One, near Warwick. Reid, Zool., 1852, p. 3330. (Gurney, tom. cit., p. 3388. More, Zool., 1854, p. 4254.) In coll. of Lord Willoughby de Broke. **31 Oct., 1851.**

2. One, near Cambridge. Illust. Lond. News, 20 Jan., 1855, and fig. (Yarrell, Br. B., II, p. 633.) In coll. of J. H. Gurney. **12 Dec., 1854.**

3. One, on the Wye at Bigsweat, Gloucestershire. Morris, Br. B., IV, p. 296. (Harting, Hand-book Br. B., p. 137.) **19 Jan., 1855.**

4. One, near Falmouth. Bullmore, Zool., 1866, p. 37. **13 Nov., 1865.**

5. One, on the River Parret, Somersetshire. Mathew, Zool., 1877, p. 389. ?

6. One, a female, Boulmer, Northumberland. Belam, Field Newspaper, 20 Dec., 1879. **21 Nov., 1879.**

Malta. 1. One. C. A. Wright, Ibis, 1869, p. 247. **17 Nov., 1865.**

Holland. 1. One. Meyer, Taschenb. deutsch. Vögelk., III, p. 156. (Dresser, B. of E., pt. 59–60.) ?

Germany. 1. One, on the Werra in Hessen. Naumann, Vög. Deutsch., VIII, p. 51. ?

Sweden. Obs.—Nilsson records this species as having been obtained in Sweden, but Prof. Meves assures me that there is no certain evidence of this, and that none at all events have been seen for fifty years.

Italy. 1. One, obtained in the market of Genoa, killed in Liguria, now in coll. of Civic Museum of Genoa. Salvadori, Fauna d’Italia, Uccelli, p. 216. **Oct., 1859.**

XLIII. *Tringites rufescens*, Vieill. BUFF-BREASTED SANDPIPER.

Great Britain. 1. One, Melbourne, Cambridgeshire. Yarrell, Trans. Linn. Soc., XVI, p. 109, pl. 11. **Sept., 1826.**

2. One, Formby, Lancashire. Yarrell, Br. B., III, p. 60. In coll. of Rev. T. Staniforth, Windermere. **May, 1829.**
 3. One, Sherringham, Norfolk. Yarrell, op. cit. **29 July, 1832.**
 4. One, Caithness. Gray, B. W. of Scot., p. 319. ?
 5. One, Yarmouth. Yarrell, op. cit. **Autumn, 1839.**
 6. One, Yarmouth. Fisher, Zoöl., 1843, p. 182. In coll. of J. H. Gurney. **22 Sept., 1841.**
 7. One, Sussex coast. Bond, Zoöl., 1843, p. 148. **1843.**
 8. One, Yarmouth. Fisher, Zoöl., 1843, p. 363. **20 Sept., 1843.**
 9. One, Marazion Marsh, Cornwall. Rodd, Zoöl., 1846, p. 1500. **3 Sept., 1846.**
 10. One, Bampton, Oxfordshire. Morris, Br. B., IV, p. 299. ?
 11. One, near Dublin. M'Coy, Ann. and Mag. Nat. Hist., 1845, p. 271. In Mus. Nat. Hist. Soc. of Dublin. ?
 12. One, on the Exe. D'Urban, Guide to Exeter, p. 122. (Harting, Hand-book Br. B., p. 138.) **August, 1851.**
 13. One, Lundy Island, Bristol Channel. Harting, l. c. In coll. of Dr. Woodforde, Taunton. **1858.**
 14. One, Lands End. Rodd, Zoöl., 1860, p. 7236. **8 Sept., 1860.**
 15. Two, People's Park, Belfast. Saunders, Zoöl., 1866, p. 389. **Oct., 1864.**
 16. One, County Dublin. Blake Knox, Zoöl., 1866, p. 303. ?
 17. One, Scilly. Rodd, Zoöl., 1870, p. 2346. **Sept., 1870.**
- Obs.— One recorded in Zoologist, 1857, p. 5791, is stated by Mr. J. H. Gurney to Harting (Harting, l. c.), to have been a young Ruff, *Machetes pugnar.*
- Heligoland.** 1. One. Gätke, J. f. O., 1856, p. 72. In coll. of Herr H. Gätke. **9 May, 1847.**
- Mr. Seebohm considers that this may be *T. subminuta* of Middendorff, the Siberian Stint.
- France.** 1. One, near Abbeville, Picardy. Deg. and Gerbe, Orn. Eur., II, p. 209. In collection of M. J. Lamotte. ?

XLIV. **Numenius hudsonicus**, *Lath.* HUDSONIAN CURLEW.

Spain. 1. One, a male. Coto Doñana, near Seville. Lord Lilford, Ibis, 1873, p. 98. In coll. of Lord Lilford. **3 May, 1872.**

Iceland. Degland and Gerbe mention that this bird is recorded from Iceland, by M. Kjarbölling, in Naumannia for 1854. Orn. Eur., II, p. 163.

(To be continued.)

ORIGIN OF THE INSTINCT OF MIGRATION IN BIRDS.

BY J. A. ALLEN.

AMONG the few who have ventured an explanation of that "mystery of mysteries," the migration of birds, is Mr. A. R. Wallace, who, in the following passage, published six years since in "*Nature*" (Vol. X, p. 459), seems to have suggested a clew to its probable solution. What he says is so pertinent that I prefer to take it as a text from which to enlarge on some points here first suggested, and others that seem not so clearly to have occurred to the author in question.* Says Mr. Wallace :—

"It appears to me probable that here, as in so many other cases, 'survival of the fittest' will be found to have had a powerful influence. Let us suppose that in any species of migratory bird breeding can as a rule be only safely accomplished in a given area; and further, that during a great part of the rest of the year sufficient food cannot be obtained in that area. It will follow that those birds which do not leave the feeding area at the proper season will suffer, and ultimately become extinct; which will also be the fate of those which do not leave the feeding area at the proper time. Now, if we suppose that the two areas were (for some remote ancestor of the existing species) coincident, but by geological and climatic changes gradually diverged from each other, we can easily understand how the habit of incipient and partial migration at the proper seasons would at last become hereditary, and so fixed as to be what we term an instinct. It will probably be found that every gradation still exists in various parts of the world, from a complete coincidence to a complete separation of the breeding and the subsistence areas; and when the natural history of a sufficient number of species in all parts of the world is thoroughly worked out, we may find every link between species which never leave a restricted area in which they breed and live the whole year round to those other cases in which the two areas are absolutely separated. The actual causes that determine the exact time, year by year, at which certain species migrate will of course be difficult to ascertain."

The premises here laid down are avowedly suppositional, and the hypothesis based thereon is therefore necessarily highly tentative.

* It is due to myself to state that the ideas here briefly presented were written out at greater length for use in another connection before the existence of Mr. Wallace's remarks here quoted, which I perceive are based primarily on the same fundamental conception, was known to me.

If what is here given as conjectural can be shown to be in part actual, and, as to the rest, eminently probable, the hypothesis must be largely strengthened. In the first place, it may be safely assumed that migratory birds can breed securely only within isotherms corresponding nearly with those which now limit their breeding ranges. From the nature of the case, demonstration of this is at present impossible; but every inference that can be drawn from the phenomena of their distribution leads to this conclusion, as, for example, the occurrence of Arctic-breeding species as summer residents of isolated alpine regions far south of their usual breeding limit. Furthermore, the "struggle for existence" may be supposed to enforce occupation of all the available breeding area. It is also noteworthy that the food of migratory species is almost wholly, or at least in large part, insectivorous, or consists of insects and such soft fruits as last for an equally short period, while that of sedentary species living in high latitudes is of such a varied character that the supply is almost equally sure at all seasons.

As to the second proposition, nothing can well be more certain than that migratory species breeding in high latitudes would, almost without exception, perish from the failure of food, to say nothing of the direct effect of what would in most cases prove to be fatal climatic changes, should they attempt to winter at their breeding areas. Again, what is predicted as *probable* in respect to the present coincidence of the "breeding and subsistence areas," and the links that may connect complete coincidence with complete separation of these areas, is an *actuality* susceptible of almost numberless illustrations. Indeed, such conditions often exist in one and the same species, many examples of which may doubtless be cited from among the birds of almost any country, embracing a wide range of latitude. The birds of the United States afford probably at least a dozen species, the representatives of which are migratory over the northern portion and sedentary along the southern portion of their respective habitats. Prominent among such are the Meadow Lark, the Purple Grackle, the Red-winged Blackbird, the Towhee Bunting, and the Bluebird. The gist of the whole matter, however, lies in the following. "Now," says Mr. Wallace, "if we suppose that the two areas were (for some remote ancestor of the existing species) coincident, but by geological and climatic changes gradually diverged from each other, we can easily understand how the habit of incipient and partial migration at the proper seasons would at last

become hereditary, and so fixed as to be what we term an instinct."

In reference to this point, let us revert for a moment to the geological history of North America. Nothing is doubtless more thoroughly established than that a warm-temperate or sub-tropical climate prevailed down to the close of the Tertiary epoch, nearly to the Northern Pole, and that climate was previously everywhere so far equable that the necessity of migration can hardly be supposed to have existed. With the later refrigeration of the Northern regions, bird life must have been crowded thence toward the tropics, and the struggle for life thereby greatly intensified. The less yielding forms may have become extinct; those less sensitive to climatic change would seek to extend the boundaries of their range by a slight removal northward during the milder intervals of summer, only, however, to be forced back again by the recurrence of winter. Such migration must have been at first "incipient and gradual," extending and strengthening as the cold wave receded and opened up a wider area within which existence in summer became possible. What was at first a forced migration would become habitual, and through the heredity of habit give rise to that wonderful faculty we term the instinct of migration. With the development of this new instinct, and from the same general cause, undoubtedly originated much of the diversity that now characterizes the North American avifauna. If we consider our present fauna in reference to the geographical relation and probable origin of its leading forms, we find that a large proportion of the species belong to genera that are either nearly cosmopolitan, or which range throughout the colder portions of the Northern hemisphere. With the invasion of the great cold wave, these with other forms must have been pressed southward, and have thus become isolated and subjected to more or less changed conditions of environment, under the influence of which they became to a greater or less degree differentiated from their Old World affines, in some cases merely as geographical races, in others specifically, if not even also occasionally generically. The orographic changes that marked the same general period would tend, in virtue of resulting climatic modifications, to further differentiation within the different areas of the continent itself. The remaining species belong to strictly American types, which doubtless originated either within or near the present American tropics, since the metropolis of nearly all the groups they respectively represent

is still within the equatorial belt. Our Orioles, Tanagers, Grackles, Hummingbirds, and Vultures, for example, are really but stragglers or outlying species of groups that are mainly tropical. Even the great family of Wood-warblers (*Mniotiltidae*) has species, indeed whole genera, that are still confined within tropical limits, including even species of that most characteristic North American genus *Dendroica*. Even at the present time, the birds which breed in tropical regions are, as a rule, sedentary, this being true also of species which belong to wide-ranging genera, the representatives of which, found in extra-tropical districts, are migratory. It may be fairly inferred that the characteristic groups of the lower latitudes have originated within the areas of their present distribution, and that their normal condition is that of sedentary birds. In the outlying species of such groups, which visit high latitudes to breed, the instinct of migration may be supposed to have been of gradual development, induced by the struggle for existence and the climatal changes that have rendered migration advantageous. The fact of many species being in part migratory and in part sedentary, in accordance with the breeding station of the individual, seems to point, not only to the gradual extension of such species from warm to colder districts, as indicated by other considerations, but to the comparatively recent origin of the instinct of migration, in virtue of the causes and in the manner already detailed.

THE GREATER LONG-BEAK, *MACRORHAMPHUS SCOLOPACEUS* (SAY).

BY NEWBOLD T. LAWRENCE.

As this bird seems to be held by certain eminent ornithologists to be rather a doubtful species or even variety, I should like to give my experience with it on the south side of Long Island, where I have had the pleasure of securing four specimens and noting two others, and also give the result of the examination of some forty specimens of both birds. Dr. Elliott Coues says: "The supposed species (*M. scolopaceus*), based on larger size and larger bill, is not even entitled to rank as a variety. Almost any flock contains a per cent of such individuals. The difference in these respects is merely the

normal individual variation.”* He then gives the measurements of nine specimens shot out of the same flock, the minimum length being 10.25, grading to a maximum of 12.50, and in the bill from 2.20 to 3.25. From this we see the variation in length and length of bill is about one inch, which, he says, “is not much more than is frequently found in examples of *Ereunetes pusillus* and *Numenius longirostris*.” This may be so, but with the last two birds the parallel stops here, for the notes, plumage, and habits of *E. pusillus* and *N. longirostris* are the same, notwithstanding how they may differ in other particulars, while with the *M. scolopaceus* and *M. griseus* there is not only a variation in size and length of bill between the two birds, but the notes, plumage, and habits are different, at least so far as I have observed, and still, with due respect for what Dr. Cones says on the subject, in all my Bay Snipe shooting I have yet to see the flock of Red-breasted Snipe from which any nine individuals could be shot showing the great variation in measurement he gives, at least on Long Island, although in the West it may be so. From this I surmise that perhaps the Red-breasted Snipe in the West is *M. scolopaceus*, and that the *M. griseus* is merely a straggler, while on the Atlantic Coast it is just the contrary, the *M. scolopaceus* being the straggler; particularly as Mr. George N. Lawrence states that all specimens supposed to be *M. griseus* which he has examined from Mexico have turned out to be *M. scolopaceus*. The bill of this bird varies from 2.50 to 3.25, while that of *M. griseus* seldom if ever reaches 2.50 in length.

The *M. scolopaceus* not only exceeds the other in length of bill, etc., but the whole general appearance of the bird is very noticeably different, and it can be easily distinguished from *M. griseus* some distance off.

Mr. George N. Lawrence says: “In all three of my specimens which are in full summer plumage, the breast and entire abdomen is of a uniform rather pale rufous without spots or bars, but having the sides of the breast transversely barred with black. In an example from Texas, the breast is barred in the same manner as the ones from Cuba.”†

In all of the seventeen specimens of *M. scolopaceus* I have examined, this character of the plumage is strongly marked, with still

* Birds of the Northwest, p. 477.

† Notes on Cuban Birds, with Descriptions of New Species. Annals of Lyceum of Nat. History of N. Y., Vol. VII, p. 272.

another feature, and that is in having the feathers of the breast and abdomen edged with a lighter rufous or white, this being particularly strongly marked on a specimen in the collection of Mr. George N. Lawrence taken in Florida during the spring of 1879. In summer specimens of *M. griseus*, the rufous of the breast blends into white on the abdomen, and the whole is more or less spotted.

In the notes, which are so characteristic of all the *Limicolæ*, and in the time of its arrival and departure during the spring and fall migrations, it differs essentially from *M. griseus*. The note of *M. scolopaceus* is much louder and clearer, and easily distinguished from the rather plaintive note of *M. griseus*, bearing about the same relation to it as the notes of the Big and Little Yellow-leg bear to each other.

Mr. George Lawrence Nicholas, in speaking of the capture of a specimen of this bird last summer, on Shinnecock Bay, says: "The note was entirely different from that of a Dowitcher, being made up of several quick sharp whistles. I am quite sure it is not a Dowitcher, as it is quite different in color, the under parts being like those of *Tringa canutus*, and only the throat and sides being spotted. Mr. Lane, with whom I was staying, says that for the past three years he has seen these birds in company with the Dowitchers, and they seem to be increasing in numbers. He and the other gunners of the house also say they have never heard this bird give a note anything like that of the Dowitcher." *

In regard to the spring arrival of this bird, Mr. George N. Lawrence gives March 20 as the earliest date, he having secured several specimens in Fulton Market, N. Y., at that time, from Long Island, which is about six weeks earlier than any recorded capture of *M. griseus*. The gunners in the vicinity of Rockaway, L. I., make a distinction between the two birds, calling *M. scolopaceus* the White-tail Dowitcher, and say it is the first to come in the spring, and that during the southern migrations it remains until late in the fall, after the Dowitchers have disappeared. Five of my specimens agree with the prevailing opinion of being late migrants; the sixth is in summer plumage, taken in August, and is my earliest record from Long Island.

The latest record I can find of this bird is a note by Dr. Thomas M. Brewer,† in which he speaks of the capture of a specimen of

* "Bird Notes from Long Island," Forest and Stream, Vol. XIV, No. 3.

† Bulletin of Nuttall Orth. Club, Vol. IV, No. I, p. 64.

M. scolopaceus at Eastham, Mass., by Mr. Frank L. Tileston, Nov. 2, 1878.

I have never seen more than one at a time, although an old gunner informs me he has had a flock of five come in to his decoys.

The following are my records of the bird in question : —

Sept. 27, 1873. Shot a young female out of a small flock of *Totanus flavipes*; when first seen it was supposed to be a Dowitcher, but at the same time I was struck with the large size and length of bill noticeable at quite a distance. (This was the first time I had seen the bird alive.)

Sept. 28, 1873. One observed flying with a flock of *Totanus flavipes*.

Sept. 15, 1874. Had a fine specimen alight within a few feet of my blind while Snipe-shooting; it was very gentle, and I watched it for some time, but, on starting it up, failed to secure it.

Sept. 25, 1875. Shot an immature bird in a salt pond on the marshes; peculiarity of note noticed.

Aug. 7, 1878. Secured an adult specimen in summer plumage; came in to the decoys alone; abdomen uniform pale rufous.

Oct. 13, 1878. While lying for Ducks at a pond on the marshes early one morning, I heard the note of this bird from high overhead, but could not see it; the next moment it darted down and settled alongside of a Duck decoy, notwithstanding the water was almost up to its breast, where I secured it.

ON *MACRORHAMPHUS GRISEUS* (GMEL.) AND *M. SCOLOPACEUS* (SAY).

BY ROBERT RIDGWAY.

Not being fully satisfied in my own mind as to the exact status of the bird called *Macrorhamphus scolopaceus*, and there being much variance of opinion among ornithologists concerning the bird in question, I was induced, some months since, to submit to a very close examination all the material at my command, and to carefully analyze all the published data bearing on the subject. The collection of birds of this genus in the National Museum, while very extensive (embracing no less than 75 specimens), was unfortunately deficient in examples from Eastern localities; therefore the conclusion arrived at from the study of this material alone proved erroneous, from the fact that nearly all were of the *scolopaceus* type, the

true *griseus* being scarcely represented. Subsequent correspondence with Messrs. George N. and Newbold T. Lawrence, of New York City, both of whom were much interested in the subject, led to the exchange of specimens for examination, and I thus for the first time became autoptically acquainted with the Eastern bird. With this additional material to aid me, I have reviewed the matter, and the result is a perfect correspondence of my views with those of the gentlemen above named, as embodied in the preceding article, except that I cannot regard the two forms as specifically distinct, since intermediate specimens do unquestionably occur, although they are exceedingly rare.

The results of my later investigations may be briefly summarized as follows :—

(1.) That in Western North America specimens never occur which, in summer plumage, have the abdomen either whitish or speckled, or the sides speckled.

(2.) That specimens marked as above are peculiar to the Atlantic coast (I have seen none from west of the Alleghanies), where they abound during the migrating season, in the proportion of about 1,000 to 1 of *scolopaceus* (according to Mr. Lawrence, *in epist.*).

(3.) That size and proportionate length of bill, legs, etc. is much more variable in both forms than is the coloration, *scolopaceus* averaging decidedly larger, however, than *griseus*.

(4.) That young birds and those in winter plumage cannot with certainty be referred to either form, excepting that the very large individuals (those exceeding the maximum of *griseus*, as given below) are undoubtedly *scolopaceus*.

These conclusions, I believe, agree in the main with Mr. Lawrence's views concerning the two forms in question. Following, I give a brief synonymy and diagnosis of the species in its two races.

Macrorhamphus griseus.

a. var. griseus.

THE GRAY SNIPE.

Scolopax grisea, GMEL., S. N. I., 1788, 658 (based on the *Brown Snipe* of Pennant and Latham).

Macrorhamphus griseus, LEACH, Cat. Brit. Mus., 1816, 31. — CASSIN, in Baird's B. N. Am., 1858, 712. — BAIRD, Cat. N. Am. B., 1859, No. 524. — COUES, Key, 1872, 253; Check List, 1873, No. 415; Birds N. W., 1874, 476.

Scolopax noveboracensis, GMEL., S. N., I, 1788, 658 (based on the *Red-breasted Snipe* of Pennant and Latham). — WILS., Am. Orn., VII, 1813, 45, pl. 58, f. 1. — SW. & RICH., F. B. A., II, 1831, 398. — AUD., Orn. Biog., IV, 1838, 288, pl. 399; Synop., 1839, 249; B. Am., VI, 1843, 10, pl. 351.

Scolopax (Macrorhamphus) grisea, BONAP., Synop., 1828, 330, No. 267. — NUTT., Man., II, 1834, 181.

Scolopax pygkullii, NILSSON, Orn. Succ., II, 106.

Totanus ferrugineicollis, Vieill., Enc., Méth., III, 1823, 1099 (based on the *Red-breasted Snipe* of Pennant and Latham).

Hab. — Atlantic Coast of the United States, breeding farther northward. No specimens seen from west of the Alleghanies.

b. var. scolopaceus.

THE RED-BELLIED SNIPE.

Limosa scolopacea, SAY, Long's Exped., II, 1823, 170.

Macrorhamphus scolopaceus, LAWRE. Ann. Lyc. N. Y., V, 1852, 4, pl. 1 (Long Island). — CASS. in Baird's B. N. Am., 1858, 712. — BAIRD, Cat. N. Am. B., 1859, No. 525.

Macrorhamphus griseus, var. *scolopaceus*, COUES, Check List, 1873, No. 415 a.

Scolopax longirostris, BELL, Ann. Lyc. N. Y., V, 1852, 3.

"*Macrorhamphus griseus*" (part), COUES, Key, 1872, 253; B. N. W., 1874, 476.

Hab. — North America in general, but chiefly the western portions of the continent; east to the Mississippi Valley, north to Alaska, and south to South America and the West Indies. Casual along the Atlantic coast of the United States.

SP. CH. — About the size of *Gallinago wilsoni*, or larger. Bill long, compressed, flattened and expanded towards the end, where (in dried specimens) punctulated and corrugated. Shaft of first primary strong, pure white. Axillars, tail-coverts, and lower part of rump, white, barred, or transversely spotted, with slate-color; upper part of rump white, usually immaculate. Tail slaty or dusky, barred with white (or, in summer, adult, with pale cinnamon on the middle feathers). *Adult in summer*: Head, neck, and lower parts light cinnamon (the abdomen sometimes whitish), the foreneck and sides of breast speckled, the sides and crissum barred or speckled with dusky. Upper parts mixed black, light cinnamon, and white, the former prevailing. *Adult in winter*: Belly and anal region white, usually unspotted; rest of the plumage nearly uniform ash-gray, somewhat intermixed with white on the breast and sides; wing-coverts bordered with whitish; a whitish superciliary stripe. *Young, first plumage*: Back, scapulars and tertials variegated black and light clay-color, the latter chiefly on the edges of the feathers; lower parts dirty white, soiled with dull buff or pale clay-color, especially across the breast; jugulum and sides usually indistinctly speckled with dusky.

Total length, about 10 to $12\frac{1}{2}$ inches, extent $17\frac{1}{2}$ to $20\frac{1}{4}$; wing, 5.30–6.00 (5.73); culmen, 2.00–3.00; tarsus, 1.25–1.75 (1.53); middle toe, .90–1.10 (1.00).

Var. griseus.

Wing, 5.25–5.90 (5.65); culmen, 2.00–2.55 (2.30); tarsus, 1.20–1.55 (1.35); middle toe, 0.90–1.05 (0.95).* *Adult in summer*: Abdomen whitish; breast and sides speckled with dusky.

Var. scolopaceus.

Wing, 5.40–6.00 (5.74); culmen, 2.10–3.00 (2.72); tarsus, 1.35–1.75 (1.58); middle toe, 0.95–1.15 (1.01).† *Adult in summer*: Abdomen uniform cinnamon, without markings; breast speckled (usually scantily), and sides barred with dusky.

ON A NEW ALASKAN SANDPIPER.

BY ROBERT RIDGWAY.

THE various collectors of the National Museum in Alaska have sent from that country numerous specimens of a Sandpiper which in its winter plumage greatly resembles *Arquatella maritima* (Brünn.), but is very differently colored in its summer dress. After much search among the older authors I have been unable to find a name for it, and therefore, since it appears to be new to science, take pleasure in dedicating it to the well-known author of an excellent "Monograph of the North American Tringæ," ‡ also the original describer of a kindred Alaskan species, the *A. piloenemis* of the Prybilov Islands. Following is a description of the new species:—

Arquatella couesi, Ridgw. — THE ALEUTIAN SANDPIPER.

SP. CH.—Similar to *A. maritima* (Brünn.), but averaging slightly smaller, and the plumage appreciably different at all ages and seasons. *Adult, breeding dress*: Above fuliginous-slate, the feathers of the pileum broadly edged, those of the dorsal region (including the scapulars) widely bordered with rusty ochraceous, or bright cinnamon, (a few of the scapulars and interscapulars tipped with white in some specimens,) the central area of each feather nearly black, or much darker than the wings and rump; lesser wing-coverts slightly, and middle coverts broadly, bordered terminally

* Extremes and average of 18 fully adult specimens.

† Extremes and average of 40 fully adult specimens.

‡ Proc. Philad. Acad., 1861, pp. 170–205.

with white; greater coverts widely tipped with white, forming a conspicuous bar across the wing; three or four of the inner secondaries chiefly white, the others, also the inner primaries, narrowly skirted and tipped with white. Rump, upper tail-coverts, and middle tail-feathers, uniform fuliginous-dusky, the remaining rectrices paler, or dull cinereous. A conspicuous whitish superciliary stripe, extending back to the nape, and confluent with the dull whitish of the under side of the head, thus posteriorly bounding a large sooty-brown auricular area; anterior portion of the lores, with the forehead, dull smoky-grayish; neck, jugulum, and breast, dirty whitish (sometimes soiled with dingy buff), and clouded or spotted with dull slate, sooty plumbeous, or dusky black, this sometimes forming a large patch on each side of the breast; remaining lower parts pure white, the sides with chain-like series of brownish slaty spots mixed with streaks, the crissum streaked with dusky; lining of the wing pure white, the border brownish gray. Bill, legs, and feet brownish black in the dried skin; iris brown. *Winter plumage*: Above soft smoky plumbeous, the scapulars and intercapulars glossy purplish dusky centrally, the plumbeous borders to the feathers causing a squamate appearance; head and neck uniform plumbeous, except the throat and a supraloral patch, which are streaked whitish; jugulum squamated with white, the breast similarly but more broadly marked. Wings, etc., as in summer. *Young, first plumage*: Scapulars and intercapulars black, broadly bordered with bright rusty and buffy white, the latter chiefly on the longer and outer scapulars and posterior part of the back; wing-coverts broadly bordered with buffy white; pileum streaked black and ochraceous; jugulum and breast pale buff, or buffy white, streaked with dusky. *Downy young*: Above bright rusty fulvous, irregularly mottled with black, the back, wings, and rump ornamented by yellowish-white downy flecks or papillæ; head above deep fulvous brown, with a longitudinal stripe of velvety black from the forehead to the occiput, where confluent with a cross band of the same, the lores with two nearly parallel longitudinal streaks of black; there are also other, rather indefinite, black markings, chiefly on the superciliary and occipital regions. Lower parts white, becoming distinctly fulvous laterally.

Wing, 4.50–5.15 (4.86) inches; culmen, 0.98–1.25 (1.13); tarsus, 0.88–1.00 (0.95); middle toe, 0.78–0.90 (0.86). (Extreme and average measurements of 14 adults.)

Hab. — Aleutian Islands and coast of Alaska, north to St. Michael's.

The present species is closely allied to *Arquatella maritima* (Brünn.), and can scarcely be distinguished in its winter plumage. A close comparison, however, shows that in this livery *A. couesi* has decidedly less of the purple gloss to the dorsal region, where the plumbeous borders to the feathers are both broader and paler:

the foreneck is also invariably squamated or streaked with white, and not uniform mouse-gray, as in *maritima*. It is still more nearly related to *A. ptilocnemis*, Coes, of the Prybilov Islands, but averages much smaller and is always very much darker-colored in every stage of plumage. The three are not only strictly congeneric, but are very probably the descendants of one original stock; but, since no intermediate specimens have been observed in a large series of each kind, they may be considered as having passed the "varietal stage," so that we may treat them as distinct species. Both Mr. Harting and Dr. Coes were wrong in referring *A. ptilocnemis* to the same group as *Pelidna alpina*, which bears only a superficial resemblance in coloration, the details of form being quite different.

While I have been unable to find any name which can be applied to this species, it appears that Pallas refers to it in his description of *Tringa arquatella*, in "Zoogr. Rosso-Asiat.," II, p. 190, since he says that specimens of his species from the Kurile Islands are marked with rusty yellow, as in the bird under consideration: "Corpus supra pluma fuscis, margine pallidis (*in Curilica are ferrugineoluteis*) . . . pectore cinerascens (*in curilica var. lutescens*)."

It remains to be proven, however, that *A. coesi* extends to the Kuriles, although it doubtless does. All Alaskan references to *Tringa maritima* of course apply to the present species.

I give below the comparative characters of *A. maritima*, *A. coesi*, and *A. ptilocnemis*:—

1. ***A. maritima*.** *Breeding dress*: Pileum streaked with yellowish-gray, or grayish-white; scapulars and interseapulars irregularly spotted and indented with dull buff, or whitish, and bordered terminally with white; foreneck and jugulum distinctly streaked with dusky, the breast dull grayish, everywhere spotted with darker. *Winter dress*: Back and scapulars sooty black strongly glossed with purplish, the feathers bordered terminally with dark plumbeous-gray; jugulum uniform mouse-gray, or brownish plumbeous. *Young, first plumage*: Scapulars, interseapulars, and wing-coverts bordered with pale grayish-buff, with little or none of rusty. *Chick*: Above hair-brown, lighter and grayer on the nape, the brown irregularly marbled with black, the wings, back, and rump thickly bespangled with white downy flecks; head grayish-white, tinged with fulvous, variously marked with black, the lores having two distinct longitudinal, nearly parallel streaks; lower parts grayish-white, without fulvous tinge. *Average measurements of 13 adults*: Wing, 5.06; culmen, 1.20; tarsus, 0.99; middle toe, 0.90. *Hab.*, Northeastern North America, Europe, etc.

2. **A. couesi.** *Breeding dress:* Pileum streaked with deep rusty; scapulars and interseapulars broadly bordered with bright ferruginous; foreneck and jugulum irregularly clouded with dull pale buff or soiled white and sooty plumbeous, the breast more coarsely clouded, with more or less of a black patch on each side. *Winter dress:* Similar to *maritima*, but with the plumbeous borders to dorsal feathers broader and lighter, or more bluish, in tint; jugulum streaked or otherwise varied with white. *Young, first plumage:* Scapulars and interseapulars conspicuously bordered with bright rusty, ochraceous, and whitish; wing-coverts broadly bordered with buffy-white or pale buff; breast and sides buffy-white, distinctly streaked with dusky. *Chick:* Above bright rusty fulvous, irregularly marbled with black, the ornamental velvety flecks or papillæ coarser and less pure white than in *maritima*; head light fulvous, with markings as in *maritima*; lower parts distinctly fulvous laterally. *Average measurements of 14 adults:* Wing, 4.86; culmen, 1.13; tarsus, 0.95; middle toe, 0.86. *Hab.,* Aleutian Islands and contiguous coast of Alaska.

3. **A. ptilocnemis.** *Breeding dress:* Pileum broadly streaked with ochraceous-buff; scapulars and interseapulars broadly bordered with bright ochraceous-rufous; foreneck and jugulum pure white, sparsely streaked with brownish gray; breast white, streaked anteriorly, and clouded posteriorly, with dusky, the latter forming more or less of a patch on each side. *Winter dress:* In general character similar to the corresponding stage of *A. maritima* and *A. couesi*, but very much paler, the whole dorsal aspect being light cinereous, the scapulars and interseapulars with small, nearly concealed, central spots, the wing-coverts very broadly edged with pure white; jugulum with white largely predominating. *Young, first plumage:* Similar to *A. couesi*, but colors throughout much paler, the light borders to the feathers of the dorsal surface broader, the dark centres correspondingly decreased. *Chick:* Similar to that of *A. couesi*, but paler, the dark streaks on the lores not reaching to the eye. *Average measurements of 13 adults:* Wing, 5.16; culmen, 1.33; tarsus, 0.98; middle toe, 0.90. *Hab.,* Prybilov Islands, Alaska.

LIST OF THE BIRDS OF THE ISLAND OF SANTA LUCIA, WEST INDIES.

BY J. A. ALLEN.

THE ornithology of none of the Windward Islands is probably better known than that of Santa Lucia, for which fact thanks are due almost exclusively to Dr. P. L. Selater and Rev. John Semper.

Mr. Semper, during his long residence on the island, has been a close observer of the birds, and the collections of skins forwarded by him from time to time to Dr. Selater have formed the basis of our present knowledge of the species. Dr. Selater, in his first paper on the birds of Santa Lucia, published in 1871,* states that he believed there was at that time "no published ornithological information whatever" respecting this island. "The little knowledge of its avifauna which I possess," he adds, "is derived from two sources:—first, a few specimens in the Paris Museum obtained by Bonnecourt, a French collector who visited the island in 1850 and 1851 on his way to Central America; and, secondly, a small series of unpublished colored drawings in the Library of this Society by Lieut. Tyler. . . . The latter, although rough and unfinished, are mostly recognizable, . . . and I think them of sufficient interest to give the subjoined list [embracing 19 species] of their vernacular names according to Lieut. Tyler, and of what I believe to be their correct scientific titles" (op. cit., p. 266). The collection forming the basis of Dr. Selater's above-mentioned paper contained 25 species, of which one (*Icterus laudabilis*) was described as new and figured. They include all but five of those mentioned in the list of Lieut. Tyler's drawings.

A few months later Dr. Selater received a second collection from Mr. Semper, adding six species to the number previously recorded. The report upon this collection† included field notes by Mr. Semper upon the 31 species now recorded. In 1875 the rare Parrot, *Chrysotis bouqueti*, was added to the list, the question of its true *patria* being now for the first time solved.‡ In 1876 Dr. Selater, in reporting upon a third collection received from Mr. Semper,§ added 8 species to those previously recorded, two of which, *Thryothorus mesoleucus* and *Leucopoeza semperi*, proved to be new, the last named representing a new genus. Dr. Selater has also recently characterized|| as new the species of *Margarops* from Santa Lucia formerly referred by him to *M. herminieri*, to which he has given the name *M. sancte-lucie*. The number of species hitherto recognized from the island of Santa

* Proc. Zool. Soc. London, 1871, pp. 263–273, pl. xxi.

† Op. cit., 1872, pp. 647–653.

‡ See Selater, op. cit., 1875, pp. 61, 316, pl. xi.

§ Op. cit., 1876, pp. 13, 14, pl. ii.

|| Ibis, Jan. 1880, p. 73.

Lucia is 40, but as yet no general list of them has been given. The Museum of Comparative Zoölogy having lately received three considerable collections of the birds of this island from Mr. Semper, numbering altogether nearly 350 specimens and adding 16 species not as yet recorded from this locality, I take the present opportunity of giving a connected list of the birds of this island, and of adding a few remarks respecting some of them. I take pleasure in here expressing my thanks to Mr. George N. Lawrence for aid in determining several of the species, and for revising many of my identifications.

The sixteen species marked with a * are newly added; two marked † are given on the authority of Dr. Selater; seven others marked ‡ are known only from Santa Lucia.

- ‡ 1. **Margarops sanctæ-luciæ**, *Sclater*. *Ibis*, 1880, p. 73. = *M. herminieri*, *Scl.*, *P. Z. S.*, 1871, 268. = *M. herminieri* var. *semperi*, *Lawr.*, MS.

Before the number of the "Ibis" for January, 1880, reached this country, Mr. Lawrence had sent for publication in the Bulletin a description of the Santa Lucia *Margarops*, he bestowing upon this form the name *semperi*. As Mr. Lawrence's paper contains a detailed comparison of the Santa Lucia form with the true *M. herminieri* from Guadaloupe, (Dr. Selater's comparison is with the Dominican form, which Mr. Lawrence has recently separated specifically from *M. herminieri* under the name *M. dominicensis*, — see *Bull. U. S. Nat. Mus.*, 1880, 16.) I have his permission to give it herewith: — "This [the Santa Lucia form] differs from the typical *M. herminieri* from Guadaloupe in being of a lighter brown above, with a tawny shade, instead of dark olivaceous; the difference in the markings of the throat feathers is very decided, in *M. herminieri* they having fulvous-white centres, with brown margins, while in the other they are whitish with brown central stripes; the most striking difference between them is that in the new species the abdomen is pure white, whereas in *M. herminieri*, with the exception of a small white space on the lower part, the abdomen is covered with conspicuous lanceolate-shaped markings, the centres of the feathers being white with well-defined brown borders; in the Guadaloupe bird the under surface of the tail feathers is reddish-brown, and the white terminal portions of the under tail-coverts are edged with light brown, while in the bird from Santa Lucia the under surface of the tail feathers is grayish-ash, and the white ends of the tail-coverts are not bordered; the last-named species has the bill dull brownish-yellow, and it is larger than that of *M. herminieri*, which has the upper mandible dark brown, and the under clear yellow. There are seven examples of the Santa Lucia form, all closely agreeing in plumage; the sex of none of them is indicated, but probably both sexes are represented." *Lawrence*, MS.

2. **Margarops montanus** (Vieill.).
- * 3. **Margarops densirostris** (Vieill.).
4. **Rhamphocinclus brachyurus** (Vieill.).
- † 5. **Cinlocerthia macrorhyncha**, *Scl.*
6. **Mimus gilvus**, *Vieill.*
- † 7. **Thryothorus mesoleucus**, *Scl.*
8. **Dendræca adalaidæ**, *Bd.*
- * 9. **Dendræca striata** (Forst.).
- † 10. **Leucopezæ semperi**, *Scl.*
11. **Setophaga ruticilla** (Linn.).
12. **Certhiola martinicana** (Gm.).
13. **Vireosylvia calidris dominicana** (Lawr.).
14. **Myiadestes genibarbis**, *Sr.*
15. **Progne dominicensis** (Gm.).
16. **Saltator gaudaloupensis**, *Lafr.*
77. **Euphonia flavifrons** (Sparm.).
- † 18. **Loxigilla noctis sclateri**, *Allen*, var. nov.

Respecting the *Loxigilla* from Santa Lucia, Dr. Sclater (P. Z. S., 1871, 270) observes: "Mr. Semper's single specimen agrees with a Martinique skin in my collection, except in having the superciliary mark rather shorter (only just reaching the eye), and no rufous at all on the crissum. It will be interesting to ascertain whether these differences are constant." Mr. Lawrence (Proc. U. S. Nat. Mus., I, 58) in recalling this observation, in relation to Dominica specimens, says: "Probably the Dominica and Martinique birds are alike; but if other examples from Santa Lucia prove to be without rufous crissums, it would seem to be a well-marked variety." Eight males from Santa Lucia show that the differences first noted by Dr. Sclater are nearly constant. In four there is no trace of rufous on the crissum; two have a strong tinge of rufous on this part, and in two one or two feathers are edged with it. The rufous area on the throat is also rather narrower, and the rufous superciliary line is much shorter and narrower. On the other hand, in a series of 15 males of *Loxigilla noctis* from Grenada, not one lacks the rufous on the crissum, and only one departs at all in this respect from the Dominica and Martinique examples; in this the rufous is about as in the two Santa Lucia specimens, which show the most rufous on the crissum.

19. **Phonipara bicolor** (Linn.).
- † 20. **Icterus laudabilis**, *Scl.*
21. **Quiscalus luminosus**, *Lawr.* (= ? *Q. lugubris*, *Scl.*, P. Z. S., 1871, 271.)
22. **Elainea martinica** (Linn.).
23. **Contopus latirostris** (Verr.).
24. **Myiarchus oberi**, *Lawr.* (= *M. erythrocerus*, *Scl.*, P. Z. S., 1871, 271.)

25. *Tyrannus rostratus*, *Scl.*
26. *Eulampis jugularis* (*Linn.*).
27. *Eulampis holosericeus* (*Linn.*).
28. *Orthorhynchus exilis* (*Gm.*). (= ? *Orthorhynchus ornatus*, *Scl.*,
P. Z. S., 1871, 272.)

Mr. Lawrence decides the specimens of *Orthorhynchus* sent by Mr. Semper from Santa Lucia to be *O. exilis*. Dr. Selater (l. c.) says that "Mr. Semper's skins agree with one in his collection obtained by Mr. Taylor in Martinique, which has been referred to *O. exilis* (*Ibis*, 1864, p. 179). But Mr. Gould now pronounces both the Santa Lucia and Martinique skins to belong to his *O. ornatus*, which is thus geographically as well as structurally intermediate between *O. cristatus* of Barbadoes and St. Vincent and *O. exilis* of the Virgin Islands and Nevis." Mr. Elliot, in his "Synopsis" (p. 178), unites *O. ornatus* with *O. cristatus*, and gives the habitat of the latter as "Islands of St. Vincent, Barbadoes, Martinique, Santa Lucia." In 1872 (*Ibis*, 1872, 355) he recognized *O. ornatus* as distinct, with "*Ihab.* Martinique, Santa Lucia (*Semper*)," apparently entirely on the basis of Selater and Gould, as above cited. The habitat of *O. exilis* he gives as "Dominica (*Taylor*), Nevis, St. Thomas, Ste. Croix (*Newton*)," and adds, that "it is natural to suppose it may be found also on some" of the islands between Dominica and Nevis, "especially as the great islands of Guadeloupe and Martinique [*sic*] are among those that intervene." Mr. Lawrence has since confirmed this conjecture, he having found it in Mr. Ober's collections formed at the two last-named islands, as well as at Barbuda and Antigua. On the other hand, Mr. Lawrence reports *O. ornatus* from only Saint Vincent, and *O. cristatus* only from Grenada. Mr. Elliot (*Ibis*, 1872, 355) gives the habitat of *O. cristatus* as "Barbadoes (*Schomburgk*), Saint Vincent (*Guilding*)," and adds, "a distinct species (or at all events a race of the same form) inhabits the island of Santa Lucia, a little to the northward." In this connection it is to be noted that Mr. Lawrence gives only one species of *Orthorhynchus* from any of the islands (seven in number) visited by Mr. Ober; and that of upwards of 50 specimens of *Orthorhynchus* lately received at the Museum of Comparative Zoölogy from Grenada, all are *O. cristatus*, and that of twenty specimens received from Santa Lucia all are *O. exilis*, and not the supposed "allied race" of *O. cristatus*, commonly known as *O. ornatus*. In view of these facts it seems probable that *O. ornatus* has been erroneously given from both Martinique and Santa Lucia, the only island at which it is certainly known to occur being Saint Vincent. It also seems probable that Saint Vincent is an erroneous locality for the true *O. cristatus*. The only species certainly known to occur in Martinique being the rather wide-ranging *O. exilis*, it seems likely that Dr. Selater's Santa Lucia specimens, which he says "agree with one in my collection obtained by Mr. Taylor in Martinique," were really *O. exilis*, and not *O. ornatus*, as reported by Dr. Selater on Mr.

Gould's authority. This determination seems to be, as above said, the sole basis for the ascribed occurrence of *O. ornatus* in either Martinique or Santa Lucia.

Since the above was put in type I have been able, through the kindness of Mr. Ridgway, to compare — in consequence of Mr. Lawrence having suggested the desirability of so doing — Mr. Ober's specimen of *O. ornatus*, collected at Saint Vincent, with the series of *O. exilis* from Santa Lucia, and of *O. cristatus* from Grenada. To my view, *O. ornatus*, judging by the single example examined, is so exactly intermediate between *exilis* and *cristatus* that it is impossible to refer it to the one rather than to the other, and it therefore seems necessary to adopt respecting it one or the other of two alternatives, — either to consider all these forms as geographical races of one species, or allow to each specific rank.

Correspondence with Mr. Ridgway respecting these forms has led to his kindly preparing for me the subjoined list of localities represented by specimens of *Orthorhynchus* in the National Museum, with remarks respecting the color of the crest at the several localities named. The words in brackets are added by me.

“‘Venezuela’ ??? Posterior *half* of crest abruptly blue. (Type of *O. emigrans*, Lawr.)

Grenada. Posterior *half* of crest abruptly blue [= *cristatus*, auct.].

Barbadoes. Posterior *half* of crest abruptly blue [= *cristatus*, auct.].

Saint Vincent. Posterior *third* of crest changing gradually to blue = *ornatus*.

Dominica. Tip of crest greenish-blue [= *exilis*, apud Lawr.].

Guadeloupe. Tip of crest greenish-blue [= *exilis*, apud Lawr.].

Martinique. Tip and posterior edge of crest tinged with blue [= *exilis*, apud Lawr.].

Porto Rico. Tip and posterior edge of crest tinged with blue [= *exilis*, apud Sundv.].

[*Santa Lucia.* Tip and posterior edge of crest tinged with blue = *exilis*, apud Lawr.].

Antigua. Crest entirely green, more golden anteriorly [= *exilis*, apud Lawr.].

Saint Thomas. Crest entirely green, more golden anteriorly [= *exilis* auct.].

Barbuda. Crest entirely green, more golden anteriorly [= *exilis*, apud Lawr.].”

“The above,” adds Mr. Ridgway, “are the localities represented by specimens of *Orthorhynchus* in the National Museum collection. You will observe by my remarks that there is a complete intergradation between *cristatus* and *exilis*.”

In regard to *O. emigrans*, one of the types of which Mr. Ridgway kindly loaned me (Nat. Mus., No. 74,009, “♂, Venezuela. From G. N. Law-

rence"), I fail to distinguish any tangible difference between it and average examples of *O. cristatus* from Grenada. Although the specimens on which *O. emigrans* was based were said to have come from Venezuela, Mr. Lawrence writes me that he now has reason to believe that the locality was "doubtless erroneous," and adds: "The dealer I got the specimens from received them from Venezuela, but afterwards he learned that they were probably sent from the West Indies." So far as known, therefore, *Orthorhynchus* is a strictly West Indian type.

§ 29. **Chrysotis bouqueti** (*Bech.*). (See *Scl.*, P. Z. S., 1874, 223; *ibid.*, 1875, 59, 316, pl. xi.) Mr. Semper has sent four specimens of this, which seems to be not a rare species in Santa Lucia.

30. **Crotophaga ani** (*Linn.*).

31. **Coccygus minor** (*Gm.*).

32. **Antrostomus rutilus**, *Burm.*

33. **Ceryle alcyon** (*Linn.*).

34. **Tinnunculus sparverius antillarum** (*Gm.*). Dr. Sclater says that in his skins of this species from Santa Lucia there is "no chestnut spot on the head of the male, as in specimens from Saint Croix" (P. Z. S., 1871, 273). In the four males received from Mr. Semper the crown is strongly varied with rufous, which in two amounts to a well-defined rufous spot.

* 35. **Buteo pennsylvanicus** (*Wils.*).

† 36. **Phaëthon æthereus** (*Linn.*).

* 37. **Sula fiber**, *Linn.*

* 38. **Fregata aquila** (*Linn.*).

* 39. **Ardea cærulea**, *Linn.*

40. **Butorides virescens** (*Linn.*).

41. **Nyctiardea violacea** (*Linn.*).

* 42. **Zenaida martinicana**, *Bon.*

43. **Chamæpelis passerina** (*Linn.*). (= *C. trochila*, *Scl.*, P. Z. S., 1872, 653.)

* 44. **Geotrygon mystacea** (*Temm.*).

* 45. **Geotrygon montana** (*Linn.*).

* 46. **Columba corensis**, *Gm.*

* 47. **Gallinula galeata** (*Licht.*).

48. **Porphyrio martinicus** (*Linn.*).

49. **Ægialitis semipalmata** (*Bon.*).

* 50. **Strepsilas interpres** (*Linn.*).

* 51. **Tringa minutilla**, *Vieill.*

† 52. **Tringa fuscicollis**, *Vieill.*

* 53. **Totanus flavipes**, *Gm.*

* 54. **Totanus melanoleucus**, *Gm.*

* 55. **Rhyacophilus solitarius** (*Wils.*).

56. **Tringoides macularius** (*Linn.*).

Recent Literature.

MAYNARD'S BIRDS OF EASTERN NORTH AMERICA * — It was the fortune of Audubon to visit Florida when it was a veritable *terra incognita*, as far as its birds were concerned, and the information brought to light by him respecting its avian life, both in the way of unknown species and of biographical notes, formed no inconsiderable part of his contributions to American ornithology. So carefully did this pioneer glean the ground of its more prominent ornithological facts, that the many similar pilgrimages since his time have, in the main, but amplified details respecting species made known and treated of by him.

But the peninsula has never received so much attention at the hands of any one ornithologist, not excepting Audubon, as from Mr. Maynard, while he is the only author who has attempted to bring under one cover a complete treatise on its birds. It is true that the present work aims at being a great deal more than a treatise on the birds of Florida. Yet its foundation was just that, and it is evident that from the Florida peninsula come the more valuable and lesser known facts which the author has to offer, although a glance over the pages is sufficient to show that he has had a large experience in other fields. It is a matter for regret that the later plan of the work had not been its original one. Had such been the case, the author would have been spared the necessity — if indeed it be a necessity — of repeating verbatim in the "Birds of Eastern North America" many pages of descriptive matter and biography which appeared in the "Birds of Florida." Nevertheless the amplification of the scope of the book greatly enhances its interest to the public at large, and insures it a wider circle of readers, especially as the author states that he intends to give particular attention to the Game and Water birds, thus on the one hand appealing to the ever-increasing fraternity of sportsmen, and on the other treating of a branch of ornithology that has been surprisingly neglected since the time of Audubon.

The energy and skill with which the author has conducted field work for the past fifteen years, of which four or five seasons have been spent in Florida, have placed at his disposal an unusually large store of facts concerning birds and their habits. Mr. Maynard possesses many of the qualities that go to make up the good observer, and, as he never strains after fine

* The Birds of Eastern North America, with original Descriptions of all the Species which occur east of the Mississippi River between the Arctic Circle and the Gulf of Mexico, with full Notes upon their Habits. By C. J. Maynard. Containing thirty Plates drawn on Stone by the Author. C. J. Maynard & Co., Newtonville, Mass. [4to. Thirteen Parts issued.]

writing, but contents himself with a plain, unpretentious style of imparting his facts, it follows naturally that many of his bird biographies are interesting stories, that may claim alike the attention of the general reader and the practised ornithologist. The former will no doubt congratulate himself that the author has chosen, wisely we think, to devote comparatively little space to the discussion of technical details, such as the effects of climate upon the colors and size of birds, matters in regard to which Mr. Maynard has shown himself to be well informed. For such a discussion Florida birds afford an ample text, but the thoroughness with which they have been treated by Mr. J. A. Allen * offers a valid reason for its exclusion in a book of the more general type of the present; so that the general reader is spared much dry reading, and finds himself upon every page face to face with the more popular and interesting side of bird histories. The descriptions of the species are in general extremely good. They are sufficiently detailed to be all that is required by the advanced student, and, indeed, often include mention of the obscurer seasonal plumages; yet they are not too technical or overburdened with detail to be made available by the tyro. In short, in this particular the author appears to have hit upon a happy medium. The paragraph devoted to "Observations" seems to us an especially good idea, as in it attention is called, in a few concise words, to facts not readily handled in the formal diagnosis, and discrimination is made between closely allied and easily mistakable species. By these hints is saved much trouble and doubt.

It is so much pleasanter as well as easier to praise than to censure, that we feel much like leaving the faults of the work to be discovered by the reader; but as we have pointed out some of its excellences, we shall not be deemed over captious if we call attention to certain points that seem fair objects of criticism. And, to begin with, we deem it peculiarly unfortunate that, in a work possessing the pretensions of the present, the plates should not be of a higher degree of excellence. A few of the earlier ones, in the "Birds of Florida," are highly creditable, and certain of the heads in the more recent numbers afford an excellent idea of the species. But, however praiseworthy may be deemed the enthusiasm and energy with which the author has educated himself to the use of the pencil, it must be admitted that the plates in general reflect no credit upon the author or his book. Not only is the drawing of many of the birds faulty, resulting in distorted outlines, but the coloring is crude to a degree; while the incongruous grouping of birds' heads in color upon the same plate with drawings of claws, sterna, tongues, etc. is, from an artistic stand-point, exceedingly objectionable. It is doubtless not easy to produce, at a moderate cost, plates that shall unite high artistic merit with scientific accuracy. But if the number of illustrations in the present book were cut down one

* Mammals and Winter Birds of East Florida, Bull. Mus. Comp. Zool., Vol. II, pp. 161 - 450, Pl. iv - viii, 1871.

half, we feel assured the sacrifice of quantity to quality would generally be regarded as for the better.

In his classification Mr. Maynard has departed in many particulars from beaten paths, the basis for most of his changes being anatomical. That he has labored diligently in this field of study is apparent, but we cannot but feel that he has moved somewhat in the dark respecting what other workers have done. It not infrequently appears, too, as though his desire for originality were, in a great measure, responsible for the positions taken, and that in striving for this he often fails critically to examine all the considerations involved. This is shown in his liability to overestimate the relative value of osteological over external characters, he often, indeed, appearing to ignore the latter entirely. As an instance the genus *Siurus* is placed, as has been done before, next the typical Thrushes, mainly, as appears, because of sternal similarities, although the author states that he can find "but two constant characters by which *Siurus* can be distinguished from *Turdus*, viz. the universally smaller size and the more conical and longer bill in proportion to the size of the bird." He thus apparently ignores or overlooks the fact of the possession by the *Siuri* of only *nine primaries*. Whatever may be thought of the proper position of the genus this fact would appear to be sufficient to exclude it from among the ten-primaried birds.

The extreme subdivision of the Owls appears to rest chiefly upon osteological features. No fewer than five families are recognized! *Bubo* and *Nyctea*, we notice, are placed in different families, although some authors experience difficulty in distinguishing them generically. The order *Falconi* (*sic*) is similarly subdivided. The use of general terms in the anatomical descriptions, instead of positive or even relative measurements, is reprehensible. Thus, "sternum high," or "coracoids short," fails to convey any meaning to the ordinary student, and would prove too indefinite even to the skilled anatomist. In anatomy, if anywhere, the strictest accuracy is a prime essential, and without it words are meaningless.

In the Preface the author calls attention to a somewhat novel principle, which he puts into practice later; viz. that when an author raises a variety to specific rank he may discard the original describer's name and apply a new one. We presume that the converse treatment would be held to give the same right, and that the degradation of a species to varietal rank also involves the right of re-naming. Either or both principles once admitted would result in a signal change of our nomenclature. Individual opinion must always have largely to do with the exact rank of forms, whether as species or varieties. But if each author is at liberty to re-name every bird concerning whose status he chooses to differ from other authorities, and about which he may himself find it necessary to reverse his judgment as new facts are brought to light, we may once and for all abandon the idea of any stability to our nomenclature. But we have no fear that such a mischievous principle will find favor, since most ornithologists are agreed that the confusion is bad enough already. The case of

Pipilo alleni — *leucopsis* of Maynard — is a different one. The author here re-names a bird admitted by him to have before been properly introduced into ornithological circles. But he of course did so without any expectation that the second name would stand. Viewed simply as an expression of his claim to the discovery of the form — a perfectly valid one, it may be remarked — it can do no special harm; it simply adds one more to the list of synonyms.

The general typographical features of the book are extremely pleasing, and excellent judgment is shown in the selection of the type, so that the printed page not only looks fair to the eye, but makes good reading. We notice here and there evidences of careless proof-reading, but in the main the "get up" of the book is all that is to be desired.

It is evident that the "Birds of Eastern North America" was written more with a view of striking the popular taste than as a hand-book for the systematic ornithologist, and that it is from the former stand-point that its chief success must come. The reader will find that the author's rambles among the Florida Keys, in the Everglades, and in the forests from Maine to Florida, have given him a wide experience from which to cull his facts, and that from it he has drawn much interesting matter, both in the way of personal incident and of bird histories.

In conclusion, we may be permitted to express the feeling that the portions of the work now before us do not by any means represent the author's best efforts, and that in certain particulars, but especially as regards the plates, he is capable of placing the work on a far higher plane than can at present be accorded it. — H. W. H.

GREGG'S BIRDS OF CHEMUNG COUNTY, N. Y.* — In Dr. Gregg's "Revised Catalogue" we have a list of the birds of a locality to which little attention has been paid by ornithologists. The list of which this is a revision was issued ten years ago, and contained many errors. These have been corrected — notably that about the Creeper's nest and the case of "*Collyrio chemungensis*" — and considerable additions made, some, perhaps, upon doubtful authority. In all, 217 species are enumerated, excluding the record of *Parus carolinensis*, which we are bidden to expunge. A few lines of notes accompany each name, but the only general fact of particular interest is the absence, or extreme rarity, of some Southern birds that might be expected to occur. The immediate locality of observation is Elmira, to which the often-written "here" refers, although there is nothing to show that this is the case. — E. I.

FREKE ON BIRDS COMMON TO EUROPE AND NORTH AMERICA. — Mr. Freke's Catalogue † of Birds found in Europe and North America

* Revised Catalogue of the Birds of Chemung County, New York. By W. H. Gregg, M. D. Elmira, N. Y. : O. H. Wheeler. 1880.

† A Comparative Catalogue of Birds found in Europe and North America. By Percy Evans Freke. Dublin, 1880. 8vo, pp. 44. "From the Scientific Proceedings of the Royal Dublin Society."

forms an important contribution to geographical ornithology. About 225 North American species are enumerated, a dozen or more of which, however, are given as represented in Europe or Asia by closely allied rather than identical species, while 16 others are considered as specifically identical, but as represented on the two continents by different subspecies or geographical races. Nearly 200 are considered as strictly identical. Of these about two fifths may be regarded as circumpolar, one fifth as Old World or "Palearctic," and two fifths as American. Quite a number of the Old World species, however, are so numerous represented either in Greenland or Alaska as to be entirely removed from the category of stragglers; the others are species that have occurred, so far as known, only a few times in Arctic America (a number only once), and generally only in Greenland or Alaska, Greenland coming in for the largest share. Of about 100 species that may be considered as merely stragglers from one continent to the other, fully four fifths are North American. This brings strongly into relief the well-known fact of the much more frequent occurrence of North American birds in Europe than of European ones in North America; but if the number of individual instances be considered, the proportion of North American birds taken in Europe is far greater than the ratio of species would seem to indicate. This preponderance in favor of North American birds is doubtless due, as is usually believed, to their transportation eastward by the prevailing westerly winds, or the great rotatory storms, which so uniformly move from the west eastward, from North America toward Europe.

The remarks relating to the species are arranged in two columns, headed respectively "America" and "Europe," and embrace a concise statement of the habitat of each species, and the frequency of their extralimital occurrence. The characters that distinguish the geographical varieties of circumpolar species are also briefly given. In nearly all cases, authorities are cited on which the author's statements rest, and are in the main, it may be added, the latest and best. Despite a few typographical errors in the orthography of personal and geographical names (as "Harding" and "Hasting" for Harting, "Michegan" for Michigan, etc.), the paper gives evidence of careful preparation, and admirably fills a long-standing gap in ornithological literature. — J. A. A.

BRAYTON'S CATALOGUE OF THE BIRDS OF INDIANA. — Dr. Brayton's Catalogue * is intended as a "practical hand-book" of the birds of Indiana, and seems well calculated to meet this requirement. It is avowedly a compilation, prepared, as the author tells us, "on only two weeks' notice," and is based largely, so far as the keys and descriptions are con-

* A Catalogue of the Birds of Indiana, with Keys and Descriptions of the Groups of greatest Interest to the Horticulturist. By Alenbert W. Brayton, B. S., M. D. Transactions of the Indiana Horticultural Society for 1879, pp. 89-166. Indianapolis, 1880.

cerned, on Dr. Jordan's "Manual of the Vertebrates of the Northern United States," and Dr. Coues's "Key to North American Birds." There are also "apt quotations" from the last-named author's "Birds of the Colorado Valley" and "Birds of the Northwest," from Thoreau, Burroughs, and Emerson, selected with a view to awakening interest among horticulturists in the general subject, and in the practical relation of birds to agriculture. While well adapted to the object in view, we note little in Dr. Brayton's paper that is new to ornithologists, but much that is given from good authorities. Short notes are added relative to the abundance, habits, and season of occurrence of the 306 species enumerated, followed by special lists of those which breed in Northwestern Indiana, of those which merely pass through the State during their migrations, of the winter visitants and residents, etc. The paper closes with an index to the names of the genera and higher groups, with their derivations, a "glossary" of the specific names, and an index of English names. In short, Dr. Brayton's paper cannot well fail of greatly promoting the objects for which it was prepared. — J. A. A.

MEARNS'S BIRDS OF THE HUDSON HIGHLANDS. — The first part of Mr. Mearns's important contribution to the ornithology of Southern New York * appeared early in 1879, and three later instalments carry the list through the genus *Loxia*, some forty pages being devoted to the 71 species thus far treated. The rarer species are frequently noticed at considerable length, and often to common ones much space is allotted. While the writer draws mainly from his own experience, he occasionally indulges in quotations from other authors, his notices of some of the species amounting to nearly complete biographies. His own notes, even when relating to some of our best known birds, are replete with new information attractively presented, few lists having appeared which offer so much that is really a contribution to the subject in a field where so little really new is to be looked for. Two important features of the paper are the dates of arrival and departure, which generally cover a period of four to six years, and the measurements, which are commonly *averages* based on series numbering from about fifteen to upward of *sixty* specimens of each species. The future instalments of Mr. Mearns's highly praiseworthy memoir may well be anticipated with interest. — J. A. A.

HARVIE-BROWN AND CORDEAUX'S REPORT ON THE MIGRATION OF BIRDS.† — Messrs. Harvie-Brown and Cordeaux, two well-known

* A List of the Birds of the Hudson Highlands, with Annotations. By Edgar A. Mearns. Bull. Essex Institute, Vol. X, pp. 166–179 (Introduction and *Turdus migratorius* to *Parus atricapillus*, inclusive), May, 1879; Vol. XI, pp. 43–52 (*Sitta carolinensis* to *Dendroica cerulea*), June, 1879; pp. 154–168 (*Dendroica cerulea* to *Myiodynastes mitrata*), Oct., 1879; pp. 189–204 (*M. canadensis* to *Loxia curvirostra*), April, 1880.

† Report on the Migration of Birds in the Autumn of 1879. By John A. Harvie-Brown and John Cordeaux. Zoölogist, May, 1880, pp. 161–204. Also eparate, pp. 44.

British ornithologists, have set themselves seriously at work in the matter of collecting exact data respecting the movements of birds during their migrations along the coast of Great Britain. Last year printed forms of inquiry and letters of instruction were sent to twenty-six light-houses on the east coast of Scotland, and returns were received respecting the autumnal migration from thirteen; to thirty-seven on the east coast of England, from which returns were received for twenty-five; to thirty-four on the west coast of Scotland, twenty-four of which sent returns; in all returns were received from sixty-two stations out of a total of ninety-seven. Such encouraging co-operation gives a hopeful outlook for the further prosecution of the work. Excluding in each case the *Natatores*, the reports from the east coast of Scotland relate to about 28 species; those from the east coast of England to about 32, and those from the west coast of Scotland to about 30. The information relating to each species is connectedly presented for each of the three areas under the name of the species observed, these special reports being followed by a general discussion of the results. Observations made at other points are incidentally incorporated, including Herr Gätke's report from Heligoland. The general drift of the returns indicates a rather unusual scarcity of birds during the autumnal migration of 1879 at many of the stations in question, and the results altogether throw very little light, as would be naturally expected by the observations of a single season (the first, let us hope, of a long series), upon the direction and causes of movement. They tend, however, to show what species most frequently come in contact with the light-stations, and under what conditions this occurs, and also the times of passage. It appears that the smaller land-birds are the most frequent sufferers, prominent among which are the Thrushes; and that their visits are made almost invariably during heavy storms, or in thick, foggy, or hazy weather. As in the case of returns received by Mr. Deane, and reported upon in the earlier pages of this number of the Bulletin, the inability of the reporters always to identify the species seen, detracts in some degree from the value of their reports.

While we are perhaps a little wiser than were the ancients in respect to the causes of migration and the routes pursued by birds, the subject is admittedly still involved to a great degree in mystery, and we can scarcely expect much advance in our knowledge of the subject till trained observers bring to bear upon it their united action, or until the records already accumulated by such observers are brought together for comparison and elaboration. We have in this country, for example, scores of well-trained observers, stationed over a great breadth of territory, who every year note carefully and in detail the arrival and departure of the birds at their respective localities; but till these records are brought together, compared with each other, and collated with the coincident meteorological phenomena (taking this expression in its widest sense), can they yield any very important results. If an ornithological bureau could be established

(which seems not impracticable) to which the accumulated observations of past years, together with the reports of each passing season, could be sent and elaborated, we should soon be in possession of a sure basis for generalization, and not till then can it be expected. The work so earnestly begun by Messrs. Harvie-Brown and Cordeaux should be a stimulus to concurrent action on the part of others, and nowhere are the conditions more favorable for systematic work than in the United States. — J. A. A.

RIDGWAY ON THE NOMENCLATURE OF NORTH AMERICAN BIRDS. — Simultaneously with the publication in the last number of the Bulletin of Dr. Coues's "Notes and Queries" concerning this subject, appeared a paper of similar character by Mr. Ridgway, in the Proceedings of the National Museum.* Mr. Ridgway takes as a starting-point Dr. Coues's "Check List," published in 1873, and formally notices many of the changes from the nomenclature there adopted that have been since introduced, and to some extent adopted, and proposes many additional ones, the whole number here receiving attention amounting to upward of eighty. Many of these have been duly noted from time to time in the Bulletin, and some have even crept into current use, but Mr. Ridgway has done good service in collecting these and bringing them into association with those newly proposed. The space here available for the purpose is far too limited to admit of a detailed notice of even all those that are new, but the leading points may be briefly summarized as follows: — Specific names changed (taking Coues's "Check List" as the basis), 30; † varieties raised to specific rank, 15; synonyms raised to varietal rank, 2; species reduced to varieties, 3; varietal names changed, 4; generic names changed, 24; new genera proposed, 2; new varieties described, 3. As already intimated, many of these changes are not new, some of them having been made in 1874, in Baird, Brewer, and Ridgway's "History of North American Birds," while others were there suggested as likely to prove necessary. Not a few have been recently introduced by European ornithologists. The more important innovations are the following. The *Turdus aonalaschkæ* of Gmelin is considered as equal to *Turdus nanus*, Baird, and, antedating *pallasi* of Cabanis, becomes the specific name of the Hermit Thrushes collectively, giving to the Eastern form the name *Turdus aonalaschkæ pallasi*, and to the Rocky Mountain form that of *T. a. auduboni*. The name *fasciata* for the Song Sparrows again receives indorsement. *Unalaschcensis* is adopted for the varietal name of what has been recently called *Passerella iliaca townsendi*. *Montana* of Forster, antedating *monticola* of Gmelin, is adopted for the Tree Sparrow, which therefore becomes *Spizella montana*. The generic name *Euspiza* gives place to *Spiza*, of which latter Mr. Ridgway shows it to be a synonym. The

* Revisions of Nomenclature of certain North American Birds. By Robert Ridgway. Proc. U. S. Nat. Mus., 1880, pp. 1–16. Published March 27, 1880.

† These numbers are given as approximate rather than as exact.

earliest name of the Magpie is assumed to be *rustica* of Scopoli, giving *Pica rustica hudsonica* for the American variety. Mr. Ridgway gives assent to the specific rank of his variety *obscurus* of the genus *Perisoreus*, conforming in this respect to the decision of Messrs. Sharpe and Henshaw. The Whippoorwill is referred to the genus *Caprimulgus*, and a new genus (*Phalacroptilus*) is instituted for the reception of Nuttall's Whippoorwill. The White-throated Swift is removed from *Panyptila* to *Cypselus*. Professor Newton's views respecting certain genera of Owls are adopted, to our view with good reason. The Great Gray Owls, however, are separated from the Barred Owls, under Swainson's generic name, *Scotiopteryx*, and *funerea* is revived as the varietal name of the American Hawk Owl. Müller's name, *dominicus*, is adopted in place of *virginianus*, for the American Golden Plover. The Spoonbill becomes *Ajaia rosea* (Briss.) Ridg., and the Louisiana Heron appears as *Hydranassa tricolor* (Bodd.) Ridg. The formerly long-current name *lentiginosus* is restored to the Bittern, and the Booby Gannet is now *Sula leucogastra* (Bodd.) Salvin. Several changes are also made in the nomenclature of the Petrels and Shearwaters, affecting in some cases the generic, in others the specific names; the Dusky Shearwater becoming *Puffinus auduboni*, Finsch. The specific name *pygmaeus*, Gmelin, is claimed for the Whiskered Auk, in place of *cantschaticus* of Lepechin.

The following are the new subspecies: *Perisoreus canadensis fumifrons*, from the coast of Alaska; *Strix nebulosa alleni*, from Florida, differing from the typical *nebulosa* in its darker colors and naked toes; *Siturus nescius notabilis*, Grinnell, MS., from the Black Hills of Wyoming. The new genera are *Phalacroptilus* (already mentioned) and *Nomonyx*, proposed for the reception of *Erismatura dominica*.

Mexicanus is finally fixed upon as the correct name of the species of *Myiarchus* which has been variously known as *cooperi*, Baird, *erythrocerus*, Selater and Salvin, *yucatanensis*, Lawrence, etc.

Through a mutual division of the field, the revision independently made by Dr. Coues and Mr. Ridgway rarely relates to similar points, and where this happens (as in the case of *Melospiza fasciata*), they arrive at the same results. In view of the additions made to the list of North American birds since the publication of the last formal list, of the many changes in nomenclature that have already become partially current, and in consideration of the large number now newly proposed and meriting adoption, a revised Check List becomes almost a necessity, and it therefore gives us pleasure to be able to state that a new "Smithsonian" list, by Mr. Ridgway, is nearly through the press, and that its publication early in July may be expected. — J. A. A.

[We are authorized to state that the new edition of Dr. Coues's "Check-List" of 1873 is ready for the press, and will probably soon appear. As far as the list of names goes, it will doubtless agree closely with the Smithsonian list. Besides the names, however, it gives the orthography, ety-

mology, and pronunciation of all the scientific words, — a thing never done in this country before. — Eds.]

GENTRY'S NESTS AND EGGS OF THE BIRDS OF PENNSYLVANIA. — Part. I of this new enterprise, published last April, has reached us, containing descriptions, with a colored plate, of the nests and eggs of *Ampelis cedrorum* and *Contopus virens*. It is designed as a popular work, to be characterized by scientific excellence combined with moderate price. The text of this number is meritorious, and the plates are not. It is, however, too early to judge the character which the publication, should it proceed, may assume; we wish here to simply record the fact of the publication of such a work. We are bound to add, however, that, as we assured the intending author when he submitted to us his plans, there is no particular *raison d'être* in this case, and little prospect that the enterprise can successfully compete with the two of similar scope now in progress, — Ingersoll's, and Jones and Shulze's. Should the author, as is most probable, have any new facts of value and interest to communicate, they might properly form papers in some scientific serial, or, preferably still, be incorporated with a revised second edition of his excellent "Life Histories of the Birds of Eastern Pennsylvania." It goes against our grain to wet-blanket any ornithological endeavor, but we have no alternative in this case. — E. C.

OBER'S CAMPS IN THE CARIBBEES. — We have already had occasion to notice in these pages several papers by Mr. Lawrence, in the Proceedings of the National Museum and elsewhere, on the results of Mr. Ober's exploration of the Lesser Antilles, which was undertaken in 1876 under the auspices of the Smithsonian Institution, for the special purpose of elucidating the little known ornithology of those islands. We recur to the subject to call attention to the work recently published by Lee and Shepard,* containing Mr. Ober's own narrative of his experiences in the Caribbees in quest of new and rare birds. The general text introduces a good deal of ornithological matter, which will be found of interest and value, and the appendix is entirely devoted to this subject. It gives Mr. Lawrence's summary list of the species, 128 in number, collected by Mr. Ober, with the geographical distribution of each, in tabular form, and also reproduces the original descriptions of all the new species discovered by the energetic and successful explorer. — E. C.

ROBERTS ON THE CONVOLUTION OF THE TRACHEA IN THE SANDHILL AND WHOOPING CRANES. — In a paper† of seven pages Mr. Roberts has given an admirable presentation of the tracheal characters of our two larger species of Cranes, illustrated with cuts. In *Grus canadensis*

* Camps in the Caribbees: The Adventures of a Naturalist in the Lesser Antilles. By Frederick A. Ober. Boston: Lee and Shepard. New York: Charles T. Dillingham. 1880. 8vo. pp. xviii, 366, with 34 illust.

† The Convolutions of the Trachea in the Sandhill and Whooping Cranes. American Naturalist, Vol. XIV, February, 1880, pp. 108 - 114, Figg.

"the whole sternum is smaller and less stoutly developed, the coils of the windpipe are confined to the anterior half of the keel, and it is this portion alone that is enlarged." He finds that there are only about eight inches of windpipe in the keel to twenty-seven inches in *G. americanus*, while the walls of the sternal cavity are less perfectly ossified. In an embryo Sandhill Crane, about ready to break the shell, the trachea was found not to enter the sternum at all. In the Cranes, as in the Swans, the extent of the convolutions varies greatly with age. — J. A. A.

MINOR ORNITHOLOGICAL PAPERS.* — The "Chicago Field" has frequently in its natural history department papers relating to ornithology, and especially to game birds. The articles, while containing many facts of interest, are mainly, we are sorry to observe, by pseudonymous writers, and their scientific value is thereby greatly impaired. In Volumes X, XI, and XII (August 17, 1878 — February 7, 1880), we note the following (Nos. 49–54) that have veritable signatures: —

49. [*The Barnacle Goose and Labrador Duck*.] By Spencer F. Baird. Chicago Field, X, p. 74. — Respecting the occurrence of the first-named species in North America, and the former "abundance" and present scarcity of the last-named.

50. *The Reed Bird* [*Dolichonyx oryzivora*]. By A. C. Waddell. *Ibid.*, X, p. 135. — A short notice of its habits, and reference to its qualities for the table. The wasteful manner in which these birds are sacrificed is evinced by the following: "As they rise in immense flocks and wheel in circuits round the fields, a discharge of both barrels, loaded with No. 12 shot, into their midst, will frequently bring down fifty or more; but three quarters are lost, as they fall in the thick mass of growing rice, where the water is from three to four feet deep; those that are found being those that fall near the edges or on the banks."

51. *Among the Pigeons*. By Prof. H. B. Roney. *Ibid.*, X, pp. 345–347. — On the habits, methods of capture, and nesting of the Wild Pigeon, with a highly interesting account of the "Michigan nesting of 1878." The nesting area, situated near Pelosky, covered "something like 100,000 acres of land," and included "not less than 150,000 acres within its limits," being in length about forty miles by three to ten in width. The number of dead birds sent by rail was estimated at 12,500 daily, or 1,500,000 for the summer, besides 80,352 live birds; an equal number were sent by water. We have, says the writer, adding the thousands of dead and wounded ones not secured, and the myriads of squabs left dead in the nest, "at the lowest possible estimate, a grand total of 1,000,000,000 Pigeons sacrificed to Mammon during the nesting of 1878." The article concludes with observations on the Michigan Pigeon law, and suggestions as to what the law should be, and a notice of the efforts made to check the shameful slaughter.

52. *Letters on Ornithology*. By Dr. Elliott Cones. — Letters No. 19

* Continued from page 115.

— 30, treating of the habits and distribution of the following species: "The Curlews of North America," *Ibid.*, XI, p. 170; "The American Bittern, *Botaurus lentiginosus* (Gm.)," p. 200; "History of the Red-breasted or Cinnamon Teal, *Querquedula cyanoptera*," p. 218; "The Snow Goose, or White Brant, *Anser hyperboreus*, Pall.," p. 233; "The American Coot, *Fulica americana*, Gm.," p. 270; "The Wood Ibis," p. 283; "The Solitary Tattler; Wood Tattler (*Totanus solitarius*)," p. 301; "Semipalmated Tattler; Willet; Stone Snipe (*Totanus semipalmatus*)," p. 315; "Bartramian Sandpiper or Tattler; Upland Plover (*Actiturus bartramius*)," p. 332; "Buff-breasted Sandpiper (*Tryngites rufescens*)," p. 348; "Great Marbled Godwit (*Limosa fedoa*)," p. 365; "The Great White Egret (*Ardea egretta*)," p. 380.

53. *The American Bittern, Botaurus minor* (Gm.). By Everett Smith. *Ibid.*, XI, p. 283. — A detailed account of its habits, as observed by the writer, at various localities in New Hampshire, Maine, New Brunswick, and Nova Scotia.

54. *Nesting of the Great Blue Heron in the West*. By Elliott Cones. *Ibid.*, XI, p. 391. — An account of its nesting along the Colorado River on shelves of rock in the cliffs bordering the river. — J. A. A.

General Notes.

NEST AND EGGS OF CATHERPES MEXICANUS CONSPERSUS. — Mr. H. D. Minot, writing under date of June 9, from Manitou, Colorado, gives the following interesting information, on a subject very little known: —

"You will be interested to know that yesterday I made another successful trip, and found the nest of the Cañon Wren. It was ten feet from the ground, in the roof of a cave, in a niche or pocket affording a flat bottom, and just about large enough to hold it, while the opening was so narrow (vertically) that I could neither introduce my hand to take the eggs nor remove the nest, which was so admirably stowed away that nothing but the movements of the birds and the dangling of three twigs betrayed its hiding-place. The female evidently was ready to set (and this morning I found her at home). I was much puzzled at first how to secure my prize. This morning I got the help of an intelligent workman, who improvised a ladder, from the upper rungs of which I studied the situation. Fortunately the rock was soft; and, while I upheld the slab, my assistant, with a few gentle blows of an axe, detached that part immediately beneath the nest, which I was thus able to remove entire, and bring safely to my room. It is not bulky; nor could it have been so in such a snug recess. Neither, to my regret, is it pretty. The outer part, being loose twigs, I can hardly hope to hold in shape. The inner, measuring three inches

across inside, and about half as deep, is a thick felt, of down and feathers, made substantial by interwoven stalks. This part in its appearance suggests the work of the Eastern Wood Pewee. On the floor of the cave is some architectural rubbish, with matted feathers, giving evidence that an old nest was cleared out for the new. The eggs (variously advanced from one to four days) are five, which probably is the average number of this species and of the Winter Wren. These measure about $.75 \times .55$ inch, but otherwise look like the eggs of a small warbler; for instance, like a common type of the Maryland Yellow-throat's eggs (though, when blown, not in the least creamy), being crystal white, dotted, spotted, and rarely blotched, chiefly toward the crown, and *nowhere profusely*, with reddish-brown, generally light, but not bright in tint. Shell very delicate." — ELLIOTT COUES, *Washington, D. C.*

DENDRECA PALMARUM PALMARUM IN NEW YORK. — In the spring of 1877 I secured two specimens of *Dendroica palmarum*, which, differing from the ordinary Eastern form of this species (*hypochrysea*) agreed closely with the description of var. *palmarum*, Ridg. To avoid all possible error of identification, however, the birds were submitted to Mr. Ridgway, who pronounces them typical *palmarum*, one of them being "unusually bright." This bird is therefore entitled to a place in the New York fauna, which connects the most eastern records of its occurrence as given by Mr. Ridgway — Carlisle, Pa. and Washington, D. C. — with the isolated New England one since made by Mr. Deane. I take the liberty of appending some interesting remarks on this topic by Mr. Ridgway, who states that he has "recently seen specimens of pure *hypochrysea* collected by Mr. Henshaw on the banks of the Mississippi, in Louisiana, showing that while in its winter migration *D. palmarum* spreads over the greater part of Florida and throughout the West Indies, *D. hypochrysea* also at the same season spreads to the westward through the Gulf States, the winter habitat of the two forms within the United States being thus in a measure identical." — E. P. BICKNELL, *Riverdale, New York City.*

THE YELLOW-RUMPED WARBLER (*Dendroica coronata*) BREEDING IN EASTERN MARYLAND. — During the latter days of June, 1879, while temporarily stationed at Havre de Grace, Md., in the interests of the United States Fish Commission, I discovered a family of *Dendroica coronata* breeding. The locality was on the banks of the river, a short distance out of town, in a clump of low cedars. The female had apparently had the right humerus fractured, as the wing, when closed, instead of lying against the body, pointed upward. She could only make short flights at a time, and when pursued always made her way by flitting and hopping to the tops of the small trees before renewing her flight. I nearly caught her with my hand several times. It is very probable that it was on account of the crippled condition of the female that the birds had chosen so southern a locality for nidification. The male appeared to be all right, but acted rather indifferent regarding the fate of his family.

I saw three of the young about half grown, but I failed to catch them. I should never have supposed the young to have been *D. coronata*, had I not so unmistakably identified the parents. My visit to the locality was early in the morning, and, being without a gun, I returned to my hotel with the intention of revisiting the place and securing the interesting family in the evening; but before that time I received orders to go south, and could not again revisit the locality. The female was subsequently seen and identified, at the same spot, by a friend, under somewhat similar circumstances, he also failing to procure either the young or the parents.

— LUDWIG KUMLIEN.

NOTES AND QUERIES ON NOMENCLATURE OF BIRDS, GENUS WILSONIA. — The changes mentioned by Dr. Coues are decidedly awkward under the consideration, "II. That use in botany does not preclude use in zoölogy."* Take the statement, "103. WILSONIA CANADENSIS (L.). If use of a generic name in botany does not preclude its acceptance in zoology, *Wilsonia* should replace *Myiodioides*, Aud."

Now, confusion is admitted here, and in many other cases, between these names in the two branches of natural science: and an additional burden is laid upon memory, which should always be avoided if possible. It appears, in this instance of illustration, to be necessary almost to distinguish in which branch of science the names are used, thus: —

Wilsonia mitrata (Gm.) ZÖÖL.

Wilsonia canadensis (L.) ZÖÖL., etc.

It necessitates additional *specific* distinctions, whereas, if "use in botany did preclude use in zoölogy," we would have distinct *specific* and distinct *generic* nomenclature in both groups, and absolute distinctiveness between these groups. — J. A. HARVIE-BROWN, F.Z.S., M.B.O.U., etc., *Dunipace House, Larbert, Scotland*.

ALBINISM IN THE BOHEMIAN WAXWING. — On the morning of November 17, 1879, I shot a female Bohemian Waxwing (*Ampelis garrula*), which presented a lighter appearance than the rest of the flock; and when picked up I discovered that it was an albino. The description of this bird is as follows: — While the color of the ordinary Bohemian Waxwings varies some in different birds, in this specimen it is fully two shades lighter all over the body. The chestnut of the under tail-coverts, the orange-brown of the front and sides of the head, are the same as in ordinary specimens; but the velvety-black of the chin and the narrow line extending across the forehead and along the sides of the head, through the eyes, meeting on the occiput behind the crest, are in this specimen a dusky black. The very dark gray of the primaries, secondaries, and primary wing-coverts of the ordinary bird, is in this albino grayish-white, edged with brownish-ash; the yellow (or white) stripe at the end of outer

* Bull. Nuttall Orn. Club, Vol. V, p. 95.

webs of the primaries is the same ; but directly opposite this, on the inner webs, is a triangular spot of pure white. The white tip on the outer webs of the secondaries is much larger than usual, and the secondaries are wax-tipped. The greater wing-coverts are pure white, delicately edged with brownish-ash, and broadly tipped with the same. This patch of white is very conspicuous, owing to its size. The yellow band on the tip of the tail is more of a lemon-color, and has not that distinct dividing line which is usual, but rather fades into the grayish-white of the tail-feathers. The tail-feathers above the yellow band are broadly edged on both webs with brownish-ash. The quills of the primaries, secondaries, the primary and greater wing-coverts, and the tail-feathers, are very dark gray ; while the pure white patch on the sides of the under jaw, and the delicate crescent of white on the under eyelid, are the same as usual. Bill and feet normal. The peculiar markings of this specimen form a very beautiful bird, and, as it has been remarked, "give it a frosty appearance." — W. L. WALFORD, *Minneapolis, Minn.*

FIRST CAPTURE OF THE BLUE GROSBEAK IN MASSACHUSETTS. — Mr. Gordon Plummer kindly informs me, that on May 29, 1880, he took a fine male of this species (*Goniaphea carulea*) in Brookline. This forms its first record for Massachusetts, and the second for New England, the other being Calais, Me., Boardman, who records it (Proc. Bost. Soc. Nat. Hist., IX, p. 127) as "Very uncertain, but common in the spring of 1861." Mr. Herriek also states (Bull. Essex Inst., V, p. 32) that a male was taken "in the spring of 1861" at Grand Menan, N. B. In my "List of the Birds of Massachusetts," published in 1878 (Bull. Essex Inst., X, pp. 3-37), I included it among the "Species of probable occurrence," remarking that it "is surely to be added, sooner or later, to the list of Massachusetts birds" (*l. c.*, p. 33).

In this connection it may be of interest to note that during the last two years nine species and two varieties have been added to the 316 species up to that time fully authenticated as birds of Massachusetts. These, with the four formerly occurring but now extirpated, bring the total number to 329 thus far identified as belonging to the fauna of this State. — J. A. ALLEN, *Cambridge, Mass.*

NOTE ON THE NESTING OF HAMMOND'S FLYCATCHER (*Empidonax hammondi*) IN DAKOTA. — Among a lot of eggs received from my correspondent Mr. Agersborg was one set with the parent bird, which on examination turned out to be of the above-named species. In reply to a letter asking him for further information regarding the matter, I received the following : "The nest was situated on a narrow strip of grass-land, bordered on one side by the highway and on the other by a wheat-field ; it was not placed directly on the ground, but a few inches from it, either in a rose-bush or some coarse branching weed. It was a very loose affair, and fell apart by the shaking of the buggy, in which I carelessly laid it. If I

rightly remember, it was composed mostly of rootlets and coarse grass. It was shallow and rather flat; the lining I do not positively remember. As the bird left the nest I shot her. It is the only nest of the kind I ever found, although the birds are not rare."

The eggs, five in number, which are now in my possession, and in color and size closely resemble those of the least Flycatcher (*E. minimus*), were taken June 17, 1879, slightly incubated. — A. M. FRAZAR, *Watertown, Mass.*

SCOPS FLAMMEOLA IN COLORADO. — The articles in this Bulletin for July, 1879, p. 188, and April, 1880, p. 121, relating the capture of the Flammulated Owl in Colorado, both overlook the first record of this species as taken in that State, viz. that in "Field and Forest," June, 1877, p. 210, where is recorded a specimen taken at Boulder, Colorado, in March (1875?),* by Mrs. M. A. Maxwell. This record was evidently unknown to Messrs. Deane and Ingersoll, since the former gentleman heads his article "Capture of a Third Specimen . . . in the United States," while the latter quotes a newspaper note to the effect that the specimen there announced was "the fourth that was ever taken in the United States." — ROBERT RIDGWAY, *Washington, D. C.*

AN OWL-EATING OWL. — In the cloudy morning of April 14, 1879, a male Barred Owl (*Strix nebulosa*) was shot in a thickly-built part of the city of Troy, N. Y., from the stomach of which I took several of the larger feathers, and one entire foot, tarsus and tibia, of a smaller Owl, — probably *Scops asio*. — AUSTIN F. PARK, *Troy, N. Y.*

PROTECTION OF THE NEST BY A MARSH HAWK (*Circus cyaneus hudsonius*). — On an afternoon in the middle of last June I was walking through a large swamp in this vicinity (Brunswick, Me.), engaged in collecting botanical specimens, when I heard a peculiar cry, and looking up I saw a Marsh Hawk (*Circus cyaneus hudsonius*) sailing through the air distant about a quarter of a mile from where I stood. The cry or call was frequently repeated, but I took no further notice of it at that time, and walked on through a growth of low trees towards a large open space of perhaps twenty acres. When I reached the confines of this space the sound increased very much in intensity, and, looking up, I saw the Hawk diving with great rapidity towards me at an angle of about forty-five degrees. I had hardly time to raise for my protection the cane which I held in my hand, before the Hawk came within a yard of my head and shot directly up into the air again. I saw that it was a male, and I then espied the female sailing high in the air. I walked on towards the middle of the open swamp, while the male flew off some distance and circled around, approaching and then receding from me. He finally made another dive

* The year of capture is unknown to me, but it was taken previous to 1876, the specimen in question having been exhibited in Mrs. Maxwell's fine collection of mounted Colorado birds at the Centennial Exposition.

for me, coming in a straight line for some distance with the same great rapidity as before. This time I struck at him with my cane, but did not succeed in hitting him on account of the suddenness of the dive, although he came within reach. This method of attack was repeated for nearly a dozen times, as I kept advancing in a direct line. After the third or fourth time he did not come nearer to me than twelve or fifteen feet, although he would dive as before. I had no thought of there being a nest in the vicinity; but at last I almost stumbled upon one which was built in the ordinary manner upon the ground, and contained four young Hawks. After I reached the nest, the male flew to a distance and approached no more, but, together with the female, which had remained far off during the whole time, flew around in circles, and uttered a cry at intervals. I took one of the young Hawks, and went away. On the next afternoon I returned with a gun, expecting that the bird would dive as before if I walked across the open space, and that I might thus obtain a shot. But the Hawk did not repeat the mode of attack, not coming within range. I also attempted the same on the third day, without success, both male and female circling at a great height.

An interesting question here arises as to the cause of the Hawk's change of manner. Did he perceive a purpose, on the second and third occasions, in my attempts to beguile him within range? or had he learned from the first day's experience that his efforts to drive me from the nest would prove unavailing? The latter seems probable to me. — LESLIE A. LEE, *Brunswick, Me.*

NOTE ON THE NESTING OF THE FISH-HAWK IN MAINE. — I found the nest of a Fish-Hawk (*Pandion haliaetus*) some years ago on the point of a rock which at high tide was separated from the main ledge and projected but a few feet above the water. It was composed entirely of kelp and sea-weed. A young one was sitting on the edge of the nest, but was able to fly. The next year I found one on a high island, destitute of trees, built on the ground between three small stumps. This contained two two large young ones, which the old birds were feeding. Two years ago I saw a pair building a nest on the top of a tall derrick, to which were attached four chains by which it was supported; these chains helped to sustain the nest.

Where the trees have been cut away or otherwise destroyed along the coast, I think it is becoming quite common for the Fish-Hawks to nest on the ground. I have noticed that their nests are also becoming more common around our inland lakes. Last fall I saw six nests on Machias Lake where two years ago there was none. — MANLY HARDY, *Brewer, Me.*

WILSON'S PLOVER (*Ægialitis wilsonia*) ON LONG ISLAND. — On page 72, Vol. I, of this Bulletin, Mr. H. A. Purdie, in a criticism on Dr. Brewer's "Catalogue of Birds of New England," etc., says: "But does not previous record show that . . . *Ægialitis wilsonius* . . . can at least be

retained as birds that have occurred here?" Dr. Brewer, on page 91, same volume, replies by saying "these names should remain on the list of those requiring more evidence." Mr. Purdie answers, on page 13, Vol. II, with proofs, among others the following, quoted from Mr. Allen: "Dr. Wood informs me that Wilson's Plover is abundant in August on Long Island." In Vol. IV, page 242, the writer records having shot a single specimen (female) on Long Island in May, 1879. A few facts regarding this occurrence may be of interest as proof of the rarity of this bird even there.

This specimen was secured while spending a few days at "Lane's" on Shinnecock Bay. His son George, who has been on the bay for nearly fifteen years, was in the blind with the writer the morning it was procured. The instant George saw it, he requested the writer to secure it, as he *had never seen such a bird*, and wished to examine it. After looking at it closely he was positive he had never seen one on the bay before. It was shown to an older son of Lane's, and to Lane himself, both of whom have been baymen from youth (the latter about forty years), and neither had ever seen a bird of this species before. They are unusually intelligent and observing gunners, and know every bird that is a common or even rare migrant or summer resident. On its being submitted to Mr. J. G. Bell, he identified it as "*Agialitis wilsonia*, in summer plumage." It seems to the writer that the testimony offered is almost conclusive, as it is unbiased; the Lanes not knowing of the difference of opinion referred to above, nor in fact did the writer until a few weeks since, when he procured a complete set of the Bulletin. — WILLIAM DUTCHER, *New York City*.

NUMBER OF EGGS OF ARDEA HERODIAS. — A letter from M. K. Barnum, of Syracuse, N. Y., states: "I have lately collected a large number of eggs of the Great Blue Heron, and nearly every nest examined contained five, instead of the 'two or three' given by you as the number (Birds N. W., p. 519). In one case there were six. When less than four were found in a nest, they were invariably fresh; whence I infer that in such instances the birds had not finished laying. Audubon, I believe, also gives the number as only three: if his observations were correct, the birds laying in this vicinity offer an exception to the rule." — ELLIOTT COUES, *Washington, D. C.*

THE LITTLE BROWN CRANE (*Grus fraterculus*, CASSIN). — It had not occurred to me, until Mr. Allen's note in the last number of the Bulletin called my attention to the matter, that this species still rested solely upon the original description in "Birds of North America," so far as general knowledge of it was concerned, else I might sooner have announced the fact that the National Museum had received numerous specimens of it, chiefly from Arctic America, where it is abundant, and where it seems to entirely replace *G. canadensis*. Indeed, it is probable that all far-northern citations of the latter refer to *fraterculus*. Many specimens have been received from various parts of Alaska, — from Kadiak (Bischoff), from St. Michael's (Messrs. Dall and Bannister, Turner, and Nelson), — as

well as from the Upper Yukon, Franklin Bay, and Anderson River, by McFarlane, who, as well as other officers of the Hudson's Bay Company, have sent us many of its eggs.

Notwithstanding its perfect resemblance to *G. canadensis* in everything except size and proportions, (the supposed differences in coloration, etc. pointed out by Mr. Allen do not hold good in a large series,) I fully coincide with Mr. Allen in his view that *G. fraterculus* is a distinct species, since, among numerous specimens of the two which I have examined, I have been unable to discover any indications of intergradation, the extreme measurements of the two being, respectively, as follows, *only adults being measured*:—

G. canadensis. Wing, 22.00; culmen, 5.00–6.00; tarsus, 9.50–10.00; middle toe, 3.50–4.10.

G. fraterculus. Wing, 17.75–19.00; culmen, 2.90–3.70; tarsus, 6.70–8.00; middle toe, 2.80–2.95.

In the shape and extent of the naked patch on the head there is much variation in both species, and I have not been able to discover any difference that is constant between them in this respect. As a rule, however, and I believe constantly in fully mature specimens, *G. fraterculus* is of a decidedly more *bluish* cinereous than *G. canadensis*.

Below are given the principal references to this species, including some of doubtful applicability.

***Grus fraterculus*, CASSIN. — LITTLE BROWN CRANE.**

(?) *Ardea canadensis*, FORST., Phil. Trans., LXII, 1772, 409 (Severn R.). — SABINE, Franklin's Jour., 1823, 685. — RICHARDSON, Parry's 2d Voy., 1825, 353. — SW. & RICH., F. B. A., II, 1831, 373 ("North to the shores of the Arctic Ocean"). — SCH., P. Z. S., 1860, 418 (Hudson's Bay). — BLAKIST., Ibis, V, 1863, 128 (int. Brit. Am.).

Grus canadensis, DALL & BANN., Trans. Chicago Ac., I, 1869, 289 (St. Michael's, Alaska). — (?) TACZAN., Jour. für Orn., 1873, 112 (N. E. Siberia).

(?) *Blue Crane*, FORST., l. c.

(?) *Brown Crane*, PENN., Arct. Zool., II, 1785, 443. — LATH., Synop., III, 1785, 43.

Grus fraterculus, CASS., in BAIRD'S B. N. Am., 1858, 656 (= juv.; New Mexico); ed. 1860, pl. —. — BAIRD, Cat. N. Am. B., 1859, no. 480. — ALLEN, Bull. N. O. C., April, 1880, 123 (Rio Verde, Mexico). — R. RIDGWAY, Washington, D. C.

NOTE ON *GRUS FRATERCULUS* OF CASSIN. — If the Arctic American Cranes are all of the kind called *Grus fraterculus* by Cassin, the species is apparently a synonym of *G. canadensis*, and the common large one needs some other name, perhaps *G. pratensis*, Bartram. Linnaeus based his name in 1758 solely on Edwards, pl. 133, and Edwards got his birds mostly from British America. The case is like that of the *Pediocetes*, as explained by Elliot. — ELLIOTT COUES, Washington, D. C.

BUCEPHALA ISLANDICA AND BUCEPHALA CLANGULA. — Recently my attention was drawn, by Mr. Welch, to the peculiar shape of the feathers which form the white scapular band in the male Barrow's Golden-eye. In this species the scapular feathers are white along the shaft, and black on one or both edges, usually both. In the second species these feathers are also white along the shaft, and black-edged, but in the Barrow's Golden-eye the terminal part of the white breaks off, and leaves the black edges projecting beyond; so that the end of the feather is of much the same shape that a longitudinal section of the lower half of a champagne bottle would be. This breakage does not take place in the common Golden-eye.

In view of the general similarity of these two birds, such a simple character of the male Barrow's Golden-eye is not without interest. That the light-colored barbs of a feather break more easily than the dark barbs is well shown in the worn plumages of our Golden Woodpeckers and in the genus *Totanus*. But the shedding that takes place in the Golden-eyes is not of this class, but belongs to the same class as that which takes place in the red nuchal patch of some Woodpeckers. In the case of the Golden-eyes the color of the back is considerably darkened.

This peculiarity has held good for all the specimens examined by me, some seven or eight in number. — J. A. JEFFRIES, *Boston, Mass.*

THE KING EIDER (*Somateria spectabilis*) ON THE CALIFORNIAN COAST. — As there is no record of the occurrence of this species on the Pacific Coast from any point south of Alaska, the capture of a specimen last winter off Blackpoint, San Francisco, is a matter of interest. The specimen came into possession of my friend, Mr. D. S. Bryant, who says that it is the first instance of the presence of the species in this latitude that has come to his knowledge. The unusually severe winter on this coast explains, he thinks, the unusual event. I believe that this and several other species of Water birds with similar Northern ranges are to be looked for as more or less regular visitants to the Californian coast, concerning the ornithology of which much remains to be added before our information is as full as it is of most portions of the Eastern coast. — H. W. HENSHAW, *Washington, D. C.*

CAPTURE OF THE GLAUCOUS GULL (*Larus glaucus*) ON LONG ISLAND, N. Y. — I procured a specimen of this handsome Arctic species in Fulton Market, New York, on March 4, 1880. It had been brought in on that day from Long Island, where it was shot. It is an excellent example of the condition described by Richardson as *L. hutchinsi*, and which Mr. Geo. N. Lawrence has previously recorded from Long Island (*Ann. Lyc. Nat. Hist.*, Vol. VIII, p. 299). Hutchins's Gull is considered by Mr. Howard Saunders (see his review of the *Larinae*, in *Proceedings of the Zoological Society of London*, 1878) to be that very brief stage through which *L. glaucus* passes in changing from the immature to the adult plumage. This state is so uncommon that I append a description of my

bird:—Rump, upper and under tail-coverts, and outer tail-feathers, white, very indistinctly marked with irregularly-transverse bars of pale grayish-brown; breast and abdomen very faintly washed with the same; residue of plumage, including back, and dorsal surface of wings, entirely pure white; shafts of quills, straw-yellow. Irides, white. Bill, flesh-colored on basal half, succeeded by a wide band of blue-black, with extreme tip whitish. Legs and feet flesh-colored; nails black, tipped with horn-color. *Dimensions*: Length, 29.00 inches; extent of wings, 67.00; wing from carpal joint, 18.00; tail, 7.55; bill along culmen, 2.50; gape, 3.70; depth opposite nostrils, .82; tarsus, 2.88; middle toe and claw, 2.90; toe alone, 2.45; claw, .55. — EDGAR A. MEARNs, *Highland Falls, N. Y.*

OCCURRENCE OF THE GANNET (*Sula bassana*) IN NORTHERN NEW YORK.—On the 10th of last December a strange bird was seen swimming in the Grasse River at Canton, New York, about eighteen miles from the St. Lawrence River. It was apparently in an exhausted condition. It remained in the vicinity, and was soon caught alive by a person who sold it to my brother, J. C. Lee. By him it was identified as the Common Gannet (*Sula bassana*). It was very weak and unable to fly, but would walk across the floor, and occasionally stretch and flap its wings. It was evidently suffering from hunger, but it refused to eat anything placed before it, fish being unobtainable. It died during the following night. It was a male, and not more than two or three years old, according to DeKay's description. The measurements almost exactly coincided with those given by DeKay.

The occurrence of this sea-bird in a region so far from the ocean is remarkable, but he evidently followed up the course of the St. Lawrence River from the Gulf and the breeding places of the species in Labrador. — LESLIE A. LEE, *Brunswick, Me.*

CAPTURE OF LEACH'S PETREL 160 MILES FROM THE SEA.—In October, 1879, a Leach's Petrel (*Cymochorea leucorhoa*) was shot in the Hudson River, about six miles north of Troy, by William Clark, of Waterford. The bird was mounted by William Gibson, of Lansingburg, and is in his collection. — AUSTIN F. PARK, *Troy, N. Y.*

THE WINTER CHANGE OF PLUMAGE OF THE BLACK GUILLEMOT.—Years ago, when I spent my winters North, I had specimens of the Black Guillemot (*Uria grylle*) sent me in midwinter in full dark summer plumage. I was inclined to think some did not change into light plumage, but from specimens sent me this winter I find that the change is very early, and some are in full summer plumage by the 1st of February. One specimen, shot the first week in February, had but few light feathers. This winter change appears different from the fall moult, when the bird loses all his pinion-feathers, so that it cannot fly, since in winter the feathers appear to change from white to black without much of a moult. — GEORGE A. BOARDMAN, *Milltown, N. B.*

NOTES ON BIRDS OF ST. LOUIS, MO. — The following extracts from a private letter contain some interesting information respecting several species observed by Mr. Widmann. — E. C.

Between the 10th and 14th of August, 1879, six Wood Ibises (*Tanatalus loculator*) have been killed within seven miles of the centre of the city of St. Louis, on "Pittsburg Lake," a small sheet of stagnant water between East St. Louis and the bluffs in St. Clair Co., Ill. A fisherman, whose hut is on the edge of this lake, killed four at one discharge of his gun. All those killed were too far gone to be saved, except their heads, which we cleaned for keeping. On the forenoon of the 18th I had the pleasure to see three of these birds myself at the same place, and observed them for some time. They were "every inch" the birds you describe in B. N. W.; and seeing them circling in the heights, they reminded me very much of the European Stork, *Ciconia alba*.

Said lake, though so near the city, is a central seat of bird life. Seen on an August day from the bluffs, it is beautifully dotted with hundreds of White Herons (*Ardea egretta*, and also *Ardea candidissima*). *Nyctiardea grisæa naevia* and *Nyctiardea violacea* (juv. July 12) have been taken there, and are in the collection of Mr. Jul. Hurter, of St. Louis. A second straggler from the South is *Sitta pusilla*, which I have seen but once, on May 6, 1878, at Hy Blow's place within the city limits. Thinking it would stay to breed, I did not kill it, which I afterward regretted, as diligent search could never reveal it again; not even my Great Horned Owl, which generally attracts all the birds of a neighborhood, could bring it to light. By the way, have you ever heard of the Great Horned Owls and a Crow living in peace together? A fortnight ago, I put a live Crow into the cage with my pair of *Bubo virginianus*, and she is still there; instead of being eaten herself, she eats the best morsels of the Owls' daily meat.

Speaking of the Crow, I cannot pass over without mentioning, at least, that immense gathering of Crows on Arsenal Island, opposite the southern part of the city; as early as August they begin to flock in, first by hundreds, then by thousands, and in December hundreds of thousands sleep there every night. The roar they make in the morning and evening can be heard for miles around, and the sight of the influx of these multitudes in the evening is something really imposing. Hundreds stay about the river all day, but most of the birds disperse over the fields and gardens, going to a distance of five miles and more every day.

Another characteristic bird of St. Louis is the European Field Sparrow (*Pyrgila montana*). I am told that our city is the only one where this imported bird propagates in considerable numbers. Here it is now very common; when the breeding season is over, flocks of a hundred and more may be met with. There is a curious incident connected with its history in this city, which may show that the Field Sparrow became a field Sparrow rather by force of circumstances than by natural predilection, yielding up the city to its stronger cousin, *Passer domesticus*. As these intruders spread from their original starting-point, *P. montana* appeared in the

southern part of the city several years in advance of *P. domesticus*. In 1877 there was no House Sparrow south of the Arsenal; but all the convenient nesting-places were already taken by the Field Sparrow. I had put up a dozen boxes, and most of them were occupied. No House Sparrow was to be seen until March, 1878, when one pair settled among the Field Sparrows in my little colony. During summer they lived together in harmony, but when fall came the offspring of *domesticus* took possession of all the boxes, and *montana* left the premises for good. Now, as I am writing, the Field Sparrows are entirely driven out of this neighborhood. The nests of these Sparrows are generally very bulky, but not always. Last May, when they prepared for the second brood, I saw a pair of *P. domesticus* remove nesting material incessantly for several days, and a few days later, on opening the box, not a dozen feathers were left, and the nest was lined with nothing but newly-picked, fragrant hay.

Another item of special importance concerns the qualification of our Purple Martin (*Progne purpurea*) for mud architecture. I did not know Martins could construct anything of mud, until I saw a pair of mine build a solid wall of real mud, two inches high, six inches long, weighing eight ounces, placing it obliquely against the entrance of the box, in front of the nest, apparently to guard the latter from the water which might flow into the house from the little front porch.

Only one more item shall be added. It is the repeated capture of *Harelda glacialis* in this neighborhood, one on April 1st, and the other on the 20th of last month; both are females, and now in the collection of Mr. Hurter. The place of capture in both cases is Cantine Lake, in Madison Co., Illinois, about six miles from the bridge.—OTTO WIDMANN, 4024 Carondelet Avenue, St. Louis, Mo.

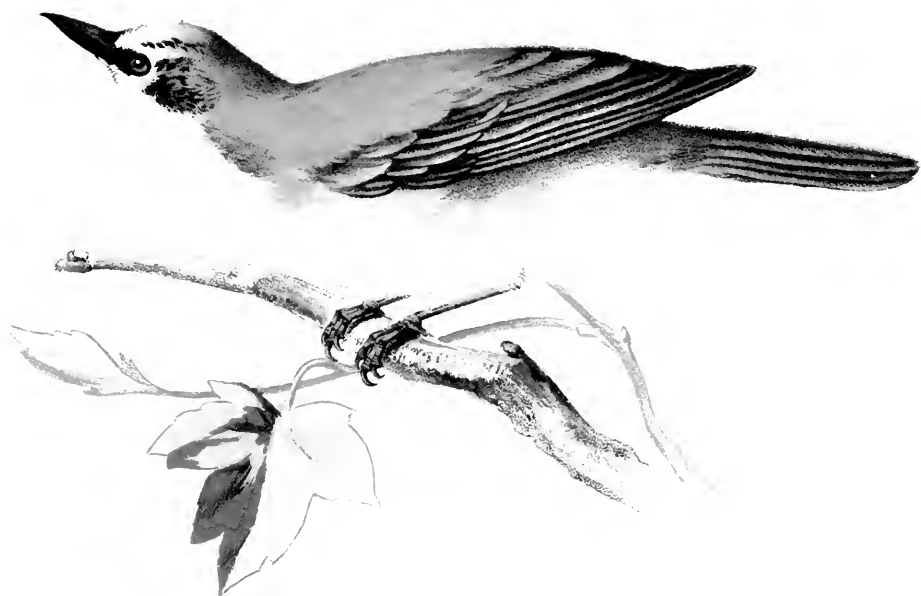
DESTRUCTION OF BIRDS BY DROWNING.—In the January Bulletin (Vol. V, p. 44), Mr. Allen, in giving abstracts of ornithological notes which have appeared in "Forest and Stream," quotes an instance of the destruction of birds by drowning in Lake Oneida, N. Y. My friend, Mr. F. T. Jencks, informs me of an incident in this connection which he observed when collecting with Mr. E. W. Nelson at Waukegan, Ill., on Lake Michigan. During the latter part of May, after a severe storm, Mr. Nelson went to the lake shore, and in the space of about two miles picked up forty-four recognizable specimens, including twenty-six species, among which were several species of Thrushes, Warblers, and Flycatchers, a Night-Hawk, Carolina Rail, Wilson's Tern, etc. Mr. Jencks says that a few species could not be identified, and that several were seen on the water, which in a few moments were washed upon the shore, and buried in sand.

It is well known that many of our land birds migrate along the coast, and over our large lakes, from point to point, and in some instances long distances from shore; and in case of sudden squalls and blows many must be overpowered and beaten to the surface, where they find a watery grave.

—RUTHVEN DEANE, Cambridge, Mass.



TIP OF TONGUE MAGNIFIED
ABOUT 25 DIAMETERS



-- Cincinnati Warbler --

HELMINTHOPHAGA CININNATIENSIS -- LANGDON.

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB.

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OCTOBER, 1880.

No. 4.

"BEHIND THE VEIL."

BY DR. ELLIOTT COUES, U. S. A.

HAVING lately been there myself, and found it a delightful place to saunter in, I will lift a little corner to let the readers of the Bulletin share my enjoyment.

There is a mine of wealth of inedited Wilsoniana and Auduboniana at Rockville, Connecticut, owned and kept with the greed of genuine bibliomania by my excellent friend, Joseph M. Wade, editor of the "Familiar Science and Fancier's Journal," whose hospitality I lately enjoyed. How he became possessed of the treasure is a long story, needless here to give; suffice it, that the authenticity of the papers and drawings is absolutely unquestionable — made so no less by internal evidence than by accompanying documentary proof. I lived for a day in the shadow of the silent past; and in the watches of the night the spirits of the two great dead seemed present in the bedchamber. If any trunkful of time-browned letters with their fading characters sends thought searching backward, when time alone is the wizard, what then of heaps of letters traced by hands whose work is world-famous? — what of the originals of drawings, the engravings of which are foremost in the history of some department of human knowledge?

Busy as I had been for years with the history of ornithology, I had seen but a single autogram of the "melancholy poet-naturalist," the "father of American ornithology," and had never happened to lay eyes upon a scrap of the writing of the brilliant Franco-American who came next to paint our birds, when I received an invita-

tion from Mr. Wade to examine his unique collection of material for new biographies of Wilson and Audubon.

I have no desire or intention to offer any formal account or valuation of this material, but merely wish to gossip a little, perhaps in a sentimental mood with which my readers will not be in entire sympathy, if they expect the subject to be treated with the rigidity of history.

By way of whetting my appetite, I suspect, Mr. Wade handed me a gun before I had been five minutes in his company. There was apparently nothing remarkable about the arm—it was a cheap, old-fashioned, single-barrelled flint-lock, altered to percussion—yet it gave me a thrill, as I balanced it, brought it to shoulder, and sighted along the barrel with my cheek pressed against the stock. Wilson had done the same many a time. After his death, it passed, directly or indirectly, into the possession of John Cassin; when that great and good ornithologist died, it became the property of Wm. P. Turnbull; at whose death it came into the hands of Willis P. Hazard; from whom Mr. Wade received it, with the necessary documents to attest its history, including an account of how the powder-horn that belonged with it was lost by a little fellow who went out shooting with it once.

We all remember Audubon's painting of the Red Fox caught in a steel-trap—a vivid picture of terror and pain. The original drawing of this engraving was lying on the table near the corner where Wilson's gun stood, little injured by time. It is of life-size; it is dated and signed by the master's hand, with pencilled instructions to the engraver to correct a faulty line here, deepen a shadow there, lighten up in another place, etc. Those who are "inside" the engraving business understand from what kind of sketches the most beautifully finished plates are not seldom produced. Coarse and raw as this painting is, however, the power of art and the life are there; and the subsequent mechanical perfection of details no more detracts from the artist's merit than do stage directions lessen that of the great player.

After supper—to which I gave my whole mind, having had the railroad luck of an unbroken fast for twelve hours, since a breakfast with Mr. Allen in Cambridge—I sat down to a pile of Wilson's letters, and other papers of his, nearly all, I think, unpublished. The letters were mostly early ones,—1803 *et seq.*,—before he had advanced very far in his ornithological experiences. I never realized

before how slender were the early attainments of the man in the science he finally illumined — nor, let me add, how great was the poverty, the privation, the difficulty, he surmounted.* Some of the letters attest his painful attempts to learn to draw — his failures and partial successes. Others give his field experiences with birds unknown to him at the time — such as the Pileated Woodpecker and Sparrow-Hawk. I infer from various signs that the names of birds which finally appeared in his work may be resolved into two categories: those of known species supplied to him by his friend Bartram, and those of birds unknown to Bartram and himself, the latter being the "new species" of his work. Having next to no books, and being no scholar, he necessarily described as new those birds which his mentor did not know the name of. Judged as pieces of literary composition, some of Wilson's letters show a straightforward simplicity of statement, often turned with an appearance of studied diction; in short, they betray "the schoolmaster abroad." Others are composed with care, and are dignified and reserved, especially in those portions where Mr. Wilson makes his respectful compliments to mutual friends; in other cases, where the naturalist lays aside the pedagogue and rambles on paper as in the woods, the style is slovenly and even ungrammatical. One also continually encounters some queer orthography — for this man was one who could not always spell correctly.

Wilson's handwriting was very variable, though an expert would probably recognize it in all its styles. The difference is specially no-



ticeable in the signature. An early style, corresponding with that in which are written the words, "Yours most sincerely," that of which I give a fac-simile, was apparently succeeded by the better-known one, in which latter the words "Alex. Wilson" are some-

* Wilson's career will everlastingly amaze and confuse all persons who do not know what genius is; for Wilson had nothing else, not even talent or "ability." For the benefit of such persons, let me give a definition of that mysterious quality: *Genius is that union of Passion and Patience which bears fruit unknown to Passion alone, to Patience alone impossible.*

times nearly as high as long, in greatly compressed up-and-down characters, set in a maze of flourishes. Wilson taught writing among other things, and some specimens of his "copy-book" handwriting resemble copper-plate in their perfection of penmanship. The accompanying fac-simile is taken from the letter, dated Pittsburg, Feb. 22, 1810, which I published in the "Penn Monthly" for June, 1879.

Besides these letters of Wilson's are other papers of equal interest. There are roughly scribbled estimates of expenses for getting up some of the plates of his work ; a receipt for a plate of copper to work on ; and several poems, believed never to have been published. There is a very moral and edifying homily on the "Dangers of Riches," which, as Wilson never experienced them, must have been a pure work of the imagination. Most of this poem consists of stereotype platitudes, reminding one of the fable of the fox who had lost his tail, and open to the suspicion that envy of the rich gave a tinge to his Muse, if it did not actually inspire her. The moral of the poem is pointed by a picture of the beggar dying at the door of the rich man and being snatched up to glory, the rich man himself being soon afterward heard shrieking in the bottomless pit. There is another poem, a patriotic one, not lacking in a certain thrill and *verve*, but not specially notable ; and, indeed, the only remarkable thing about Wilson's poetry is its "despicable mediocrity." A third is a love-poem, or perhaps as near a composition of that sort as necessary. Wilson has appeared in public in the most miscellaneous characterization, — as pedler, politician, pedagogue, and poet, as well as ornithologist ; and we have him here as the loving swain, inviting his mistress to

THE BEECHEN BOWER.

O dear to my heart is this deep shaded Bower
 This snug little seat and this smooth Beechen Tree
 These old hoary Cliffs through the bushes that tower
 And bend o'er the pool their resemblance to see
 The fountains the Grotto the Laurel's sweet blossom
 The Streamlet that warbles so soothing and free
 Green solitudes ! dear to the Maid of my bosom
 And so for her sake ever charming to me

Here seated with Anna what bliss so transporting
 I wish every moment an age were to be

Her taste so exalted — her humour so sporting
Her heart full of tenderness virtue and glee
Each evening sweet Bow'r round thy clifts will I hover
In hopes her fair form thro' the foliage to see
Heavn only can witness how dearly I love her
How sweet Beechen Bower thy shades are to me.

[Signed] A. WILSON.

Jan. 18th 1804.

Let us trust that "Anna" came, and showed herself a woman wise and good enough to tell him that *she* knew he was a great man, and that his pictures were beautiful, and that the world would know it too some day. In those times Wilson probably needed something of this sort as much as he feared the dangers of riches; and it might have helped him more than anything else could have done, except a little money.

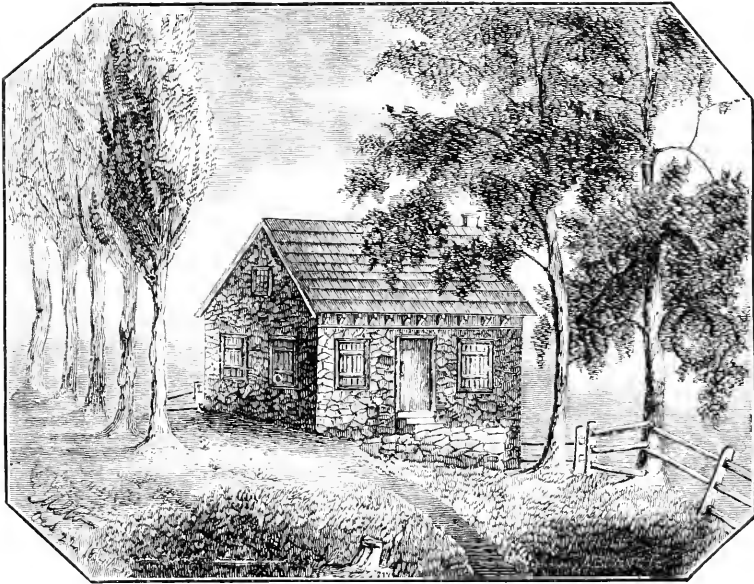
In one of his books, the late Dr. Turnbull alludes to the portfolio of Wilson's, then in his possession, and reproduces from it a sketch of a Heron's head with Wilson's autograph. If not the portfolio itself, its contents at any rate are now in Mr. Wade's possession. This series of Wilson's drawings includes, I should judge, "the biggest half" of the originals of his famous plates. In handling these drawings and paintings, of all degrees of completeness, one of sensibility could but experience some emotions he would not care to formulate in words. But something may properly, perhaps profitably, be said here. I was fairly oppressed with the sad story of poverty, even destitution, which these wan sheets of coarse paper told. Some of Wilson's originals are on the fly-leaves of old books, showing binder's marks along one edge. One of the best portraits, that of the Duck Hawk, is on two pieces of paper pasted together. The man was actually too poor to buy paper! Some of the drawings are on both sides of the paper; some show a full picture on one side, and part of a mutilated finished painting on the other. Some show the rubbing process by which they were transferred. They are in all stages of completeness, from the rudest outlines to the finished painting. Some are left half-dressed, with pencilled instructions to the engraver to fill in red ochre here, and yellow ochre there, etc. Wilson sometimes finished the bills and feet in full detail and coloring, leaving much of the plumage blank. One thing is shown very clearly by this set of pictures, and the public does not know it yet. This is the *decided superiority of the originals* in comparison

with the published engravings. It has always been supposed, and apparently vouched for by Wilson's own declarations, that the excellence of his plates was largely due to the skill and care of his engraver. This is not so. Without wishing to detract in the least from Mr. Lawson's merit and well-earned fame, I should say Wilson might thank him for nothing remarkable. The plates, in some cases, are "loud" and garish in comparison with the delicacy of tone and excellence of perspective that the originals show. This is specially notable in the cases of one or two of the plates that represent scenery and grouping, as those of the Ducks. The poor fellow was probably only too glad to get his pictures engraved at all; and much of his praise of the result is rather the joy and gratitude of a troubled soul attaining in some sort its aim, than criticism by the canons of art. Of the crowding of his figures it is unnecessary to speak, after what has been said. He might have used the language of the starved apothecary in *Romeo and Juliet*: "My poverty, but not my will, consents." One other thing came forcibly to my mind as I turned these sheets of paper nervously. Very few of them — I remember but one — are dated or signed, or bear MS. witness of what they are. This man, of eager, restless, half-desponding, half-exulting ambition as he was, seemed to have felt some shrinking in modesty from affixing his name to his pictures. It indicates a trait as characteristic as is the opposite in the case of his brilliant and forward successor, the splendid Audubon. The exception above alluded to is a finished painting of the Cedar Bird (not the one published), said to be *the first* completed picture Wilson ever made, and designed as a present to a friend. This is carefully finished, and duly inscribed.

One of Wilson's pictures is the slightest possible sketch, in pencil, of his school-house. It is that of which Mr. Wade has spoken in "*The Oölogist*," August, 1880, p. 43. It is different from the one here presented, the two having been taken at considerable intervals, as shown by the trees, as well as by the alteration in the basement; in one view there is a stone landing, in the other a wooden porch. Another picture, also mentioned by Mr. Wade (*l. c.*), is a "starling" painting of the "Sorrel Horse Inn." Both of these should be engraved and published, as I presume will be done.

One other little scrap of gossip, and we must pass to another portfolio. In one of his letters, Wilson bewails the trouble he had in drawing Owls' heads satisfactorily; and from the backs and corners

of various pieces of paper peer curious faces of Owls, in all stages of incompleteness, showing how he practised drawing these difficult subjects.



WILSON'S SCHOOL-HOUSE, NEAR GRAY'S FERRY, PHILADELPHIA.

From a drawing by M. S. Weaver, Oct. 22, 1841, received by Elliott Coues, February, 1879, from Malvina Lawson, daughter of Alexander Lawson, Wilson's engraver. See article in the "*Penn Monthly*," June, 1879, p. 443. The drawing was first engraved on wood, and published by Thomas Meehan, in the "*Gardener's Monthly*," August, 1880, p. 248. The present impression is from an electrotype of that wood-cut. The size of the original is 5.10 x 3.95 inches.

Quite a different "presence" seemed about me as I turned from these precious relics to the no less valuable and interesting collection of Audubon letters and drawings. The correspondence — much if not all of it imedited — in Mr. Wade's possession is voluminous, and supplies many missing links in the inside history of the ever-splendid "*Birds of America*." The marvellous genius of Audubon, with its grand achievements, could not but excite envy and set slander abroad in some quarters. The documents, of course, are mainly on the side of the author, and some of them show certain high names in no favorable light. There are some unpublished defences of Audubon from the attacks of "the eccentric Waterton"; some matters which no friend of George Ord (Wilson's editor, it will

be remembered) would wish to become public; and, among many of Audubon's own letters to various persons who are to-day historic in ornithology, are others to him bearing the signatures of Swainson, Richardson, MacGillivray, Vigors, Yarrell, and other eminent English authors. To one of these, from MacGillivray, I shall presently recur.

One dark spot in the history of American Ornithology is cast by the cloud that passed over the intercourse between its two greatest men, Wilson and Audubon. I must say, so far as I can judge, that right rests with the latter in the matter of that Louisville meeting; for I feel sure that Audubon's version of the affair is more to the point than Wilson's, — for each, you know, has printed it in his book. Wilson, the patient, the long-suffering, the football of fortune, with his sun setting upon a *succès d'estime*, so far as art was concerned, — Audubon, then flashing toward the zenith with his marvellous mastery of pen and pencil, — Wilson would have been more than human if the iron of envy had not entered his soul, and Audubon would have been less than humane had he not forborne. "There is a great deal of human nature in mankind," some one has wittily said; and to human nature let *that* account be scored, in charitable silence.

As the work of Audubon progressed, the original quarrel proved the fountain-head of a stream, rendered turbid by the mixture of money matters. But I have no desire to enlarge upon this; the precise parallel may be found on any business street of any busy city.

In examining some of Audubon's drawings, I was struck by the width of the gulf, which might have been supposed unbridgeable, between the mature productions of the illustrious artist and his early efforts. Some of the latter are mere daubs, in fact, though obviously completed. Yet, faltering and unaccustomed as is the touch of the hand, the germ of life is even there; and we all know now what flower and fruit were then in embryo.

As Mr. Wade had gathered his materials for a definite purpose, I did not feel at liberty to even ask for copies of any of the Audubon correspondence, and thereby lessen the novelty of anything he might wish to bring out. I have in my temporary possession, however, an unpublished letter of Audubon's, which I have the permission of the owner to print. It belongs to Dr. R. W. Shufeldt, of the Army, who received it from Mrs. Audubon. It is written to Dr. Richard Harlan, and is interesting as relating to the discovery

of the "Black Warrior" (*Falco harlani* Aud.), a bird which has puzzled successive ornithologists not a little.

Following this letter of Audubon's is one from MacGillivray to Audubon, which possesses special historical value as bearing upon the share the Scottish ornithologist had in the make-up of Audubon's work. It belongs to Mr. Wade, who allowed me to take a copy. It is already pretty well understood that MacGillivray "did" the technical portions of the "Birds of America" for Audubon; i. e., furnished the nomenclature, the classification, much of the technical description, and probably all of the anatomical matter. As I have lately said in my Bibliography, while detailing these circumstances, "there seems to have been some mutually satisfactory understanding between the two which has never been made public." This letter of MacGillivray's was a windfall to me as a bibliographer; for I had said so much, unsupported by documentary evidence, that I feared I had laid myself liable to censure. The letter shows that the "satisfactory understanding" between Audubon and MacGillivray was an ordinary business transaction "for value received." Mr. Swainson, I think, has somewhere had something to say on the subject, though I forget exactly where; but whatever he may have said of the kind, and all that I have had to say, is here at last fully established over MacGillivray's own signature. I should judge, also, that this letter is a very characteristic one; for its sturdy independence, express indifference to Audubon's proposal, and unguarded candor, accord well with the impression I have formed of the writer's personality. I may add, that in this letter, and in all of several others I have seen, the name is written MacGillivray, not Macgillivray, as we are in the habit of seeing it printed.

But it is time for me to say "good-night" to my host, Mr. Wade; and in so doing I also make my respectful compliments to AUDUBON and MACGILLIVRAY, leaving these *joint authors* of the "Birds of America" to speak for themselves through the two following letters, which, I need not add, are printed, as nearly as the type will do it, *verb. lit. et punct.* after the originals.*

* Since I penned this article, Dr. T. M. Brewer's eulogy of Audubon has appeared in "Harper's Magazine" for October. Comparison of the several letters it contains with the one here given will show how well they have been edited. The fancifulness of the sketch is condoned by the warmth of friendship and sincerity of admiration which pervade it.

[Letter from John J. Audubon, superscribed to "Rich^d Harlan Esqr. M. D. &c &c &c Philadelphia Pens^a"; now in the possession of R. W. Shufeldt, M. D., and heretofore unpublished.]

St Francisville Louisiana Novembr 18th
1829 —

My Dear Friend. —

You will see by the data of this the rapidity with which I have crossed *two thirds* of the United States. I had the happiness of pressing my beloved wife to my breast Yesterday morning; saw my two sons at Louisville and all is well. — from Philadelphia to Pittsburgh I found the Roads, the Coaches, horses Drivers and Inns all much improved and yet needing a great deal to make the traveller *quite comfortable* — The slownesse of the stages is yet a great bore to a man in a hurry — I remained part of a day at Pittsburgh where of course I paid my respects to the Museum! I was glad to see the germ of one — it is conducted by a very young man named Lambdin — I made an arrangement with him [place of seal — paper gone] &c &c &c. at Cincinnati I also visited the Museum [paper gone] it scarcely improves since my last view of it, except indeed by wax figures and such other shows as are best suitable to make money and the least so to improve the mind. — I could not see D[illegible] my time was very limited. — The Ohio was in good order for Navigation and I reached Louisville distant from you about 1,000 Miles in one week. = as you spoke of travelling westwardly I give you here an $\frac{1}{2}$ of the Fare. — to Pittsburgh all included 21 \$. — to Louisville 12 \$. — and 25 \$ more to Bayou Sarah where I Landed. 30 \$ is the price from Louisville to N. Orleans. = our Steam Boats are commodious and go well — but my Dear Friend the most extraordinary change has taken place in appearance as I have proceeded. — The foliage had nearly left the Trees in Pennsylvania, the Swallows had long since disapeared severe frost indeed had rendered Nature gloomy and uninteresting — Judge of the contrast: I am now surrounded by *Green Trees* and Swallows gambole around the house as in Pennsylvania during June & July = The mock bird is heard to sing and during a Walk with my Wife yesterday I collected some 20 or 30 Insects = that is not all, a friend of mine here *says* that he has discovered 2 or 3 *New Birds!!!* — new Birds are new birds our days, and I shall endeavour to shew you the Facts Simile when again I shall have the pleasure of shaking your hand —

although so lately arrived, I have established the fact that M^{rs} A. and myself will be on our way towards "Old England" by the 15th of Jan^y. we will ascend the Mississippi and after resting ourselves at Louisville with our sons and other relatives about one month and then proceed with the Rapidity of the Wild Pigeon should God grant us our wishes! —

have you seen or heard any thing of Ward? — have you the little sketch of Dear? = we had a passenger on Board the Huntress named *Potts* from your City who knows you well a lively young Gentleman; has a Brother (a Clergyman) established and married at Natchez. —

I will begin Drawing next week having much scratching with the Pen to perform this one, and I am also desirous to make [paper gone] Large Shipment of aborigines both animal and vegetal as soon as possible. — Turkeys, Alligators, Opposums, Paroekett, and plants, as Bignonias &c &c &c. will be removed to the Zoological Gardens of London, from the Natural ones of this Magnificent Louisiana! — meantime I will not forget *my Friends in Phila.* no I would rather forgive all, to all my Enemies there. — assure Dr Hammersley that Ivory Billed and Peleated Woodpeckers will be skinned, and who knows but I may find something more for him. — I will give free leave to Dr. Pickering to chuse amongst the Insects and who knows but I may find something new for him. remember me most kindly to both, nay not in the common manner of saying "Mr Audubon begs to be remembered" no not [at] all. This way Mr A remembers *you* and *you* and *I* and will remember *you* and *you* and *I* always!! —

May I also beg to be remembered in humble words to a fine pair of Eyes; divided, not by the Allegany Mountains; but by a nose evidently imported from far *East*, to a placid forehead, to a mouth speaking happiness to ————— your ————— [dash line nearly across page.]

Should you see Friend Sully remember me to him also — and should you see George Ord Esqr. *Fellow* of all the Societies *Imaginable* present him my most humble ————— [dash line more than across the page.]

Should you see that good woman where I boarded at Camd'den tell her that I am well and thankful to her for her attentions to me. —

I cannot hope the pleasure of an answer from you here but you may do so, and I say pray do so, directed to the care of N. Berthoud Esqr Louisville Kentucky. — by the bye my sons are taller than me, the eldest one so much altered that I did not know him at first sight, and yet I have *Eyes* —

God bless You, Your Friend

John J. Audubon

[The following is written across the first page: —]

I reopened my letter to say that I have *Just now* killed a Large *New Falcon yes positively a new Species of Hawk almost black about 25 Inches Long and 4 feet broad tail square Eye yellowish White, Legs and Feet bare short & strong.* ————— *I will skin it!!!* —

remember me to Lehman —————

What I have said about the Hawk to You must be *Lawful* to *Academics* and you will please to announce *Falco Harlanii* by

John J. Audubon

F. L. S. L.

[*Letter from W. MacGillivray, superscribed to "John J. Audubon, Esq^r. Mr. Havell, 77 Oxford St. London." now in the possession of Jos. M. Wade, Rockville, Conn., and hitherto unpublished.*]

Edinburgh, 11 Gillmore Place.
28th May 1834.

Dear Sir,

I am glad to hear of your safe arrival, which I did not expect so soon, and pleased to find you in good health and high spirits. As you have the kindness to inquire respecting myself and family, I am happy to inform you that we are all very well, contented and busy. My head and hands are quite full — abundance of work, and sufficient pay — time to ramble now and then for the purpose of hammering rocks, pulling plants, and shooting birds.

You say you have accumulated a mass of materials which you are desirous of seeing in print, and propose that I should revise it as before. I shall be glad to do so, if you please, and willing that you confer the benefit on another, if you find it expedient. As to the terms, let them be such as you please with respect to money; but as time is valuable to me, I should like that arrangements be made so as to prevent unnecessary loss of it, by letting me have manuscripts, books, &c. in due array.

The skins of which you speak I apprehend cannot be disposed of here to any great extent; but I believe shells might be sold to advantage, and bring higher prices than in London.

You ask if I draw Birds yet, with a view to publish. My answer is that I dissect, describe, and draw Birds, Quadrupeds, whales, reptiles, and fishes, with view of astonishing the world, and bettering my condition. I have about a hundred drawings, all the size of life, excepting two dolphins. But I have determined nothing as yet respecting publication. Some time ago a friend of mine called on Mr Havell with a letter in which I desired that person to engrave for me a few of my drawings, for the purpose of being exhibited at the meeting of naturalists. I had no answer, and so Mr Havell may go to Jericho, or elsewhere, as he lists; but further your correspondent saith not.

I am decidedly of opinion that, although you should continue the publication of the Ornithological Biography, you might bring out various other works which could not fail to be popular; for example, a biography of yourself, and sketches of American scenery. But of these matters it is impossible to speak to purpose unless I had the pleasure of seeing you, a pleasure which I hope I shall have at the time of the general assembly of the naturalists.

With best respects to Mrs. Audubon, and best wishes for the prosperity of all who bear that name, I have the honour to be, Dear Sir, yours in sincerity,

W MacGillivray.

NOTES ON THE NORTHERN RANGE OF THE FISH CROW
(*CORVUS OSSIFRAGUS*), WITH SOME ACCOUNT OF ITS
HABITS.

BY LOUIS A. ZEREGA.

IN speaking of the Fish Crow, Dr. T. M. Brewer says* that "Mr. Lawrence is confident that it never occurs farther north than Squan Beach, in New Jersey." That this opinion is incorrect is evident from the following facts. Eight specimens were shot by Mr. E. B. Keeler at his home near Seabright, Monmouth County, New Jersey; these were kindly presented to me by Mr. Keeler, to whom I express my sincere thanks for this as well as many similar favors. Three Fish Crows have been captured by Mr. Robert White along the shore of Sandy Hook Bay, between the Highlands of the Navesink and Sandy Hook. This species has also been found, on several occasions, north of Sandy Hook. Mr. Edgar A. Mearns killed a beautiful female at Highland Falls, N. Y., on the Hudson River, on the 7th of May, 1877, as recorded in this Bulletin (Vol. III, No. 1, pp. 45, 46) for January, 1878. In the same issue of the Bulletin (p. 47), Mr. Clarence H. Eagle records the capture of a fine female of this species near Rockaway, Long Island, on the 17th of July, 1873. Mr. Theodore Roosevelt shot a male at Oyster Bay, Long Island, on December, 30, 1874.† This makes the third authentic record of its capture in New York; and Mr. Eugene P. Bicknell noticed a pair that appeared at Riverdale, N. Y., on the Hudson, on Feb. 24, 1878, and remained for some time in that vicinity.‡ In Massachusetts, Mr. William Brewster saw a Fish Crow at Cambridge on the morning of March 16, 1875,§ and J. H. Linsley gave it as occurring at Stratford, Connecticut.||

It is not generally known that the most northern point at which this species occurs in abundance is no farther south than Sandy Hook, and the adjacent parts of the New Jersey coast. I have no

* History of North American Birds, Vol. II, 1874, p. 252.

† See "Notes on some of the Birds of Oyster Bay, Long Island," March, 1879.

‡ See this Bulletin, Vol. III, No. 3, p. 131, July, 1878.

§ See this Bulletin, Vol. I, No. 1, p. 19, April, 1876.

|| Am. Jour. Sci. and Arts, Vol. XLIV, No. 2, p. 260, 1843.

doubt that one third of the Crows that fly about the Lower Bay of New York are *C. ossifragus*. This remark may at first seem extravagant, but it is nevertheless true, as may be seen from the fact that, out of some twenty-six Crows killed during the past year, without regard to species, between Sandy Hook and Seabright, N. J., eleven were Fish Crows.

These birds are not so suspicious as *Corvus americanus*. Mr. Keeler shot most of the specimens that were killed by him from the cover of a "blind" over "decoys" (which are simply pieces of blackened pasteboard of bird shape, set up at different angles, so as to present a side toward each direction). As the Crows fly over, they see the "decoys," and, supposing the place to be a good feeding-ground, fly towards it; I have even seen Common Crows alight before discovering their mistake.

On the 17th of March, 1880, Mr. Keeler "winged" a Fish Crow, and, after carefully dressing the wound, put his bird in a large wire cage in a corner of the conservatory, where he became quite tame, and, after a time, was permitted to roam at will about the house and grounds; but he always returned at the close of the afternoon to his wire cage. This Crow was very fond of cheese, especially such as was hard and dry: if a large piece was given to him, he would hold it upon the perch with his claws, and then strike, apparently with might and main, at the cheese with his bill, until the piece was broken into morsels small enough to be devoured, which he would then swallow, often choking in his haste. Some Bantam fowls were in the habit of roosting on the Crow's cage; this seemed to cause him great annoyance, and he made several attempts to drive the fowls away. One morning, when Mr. Keeler went as usual to feed his pet, he found a large hole in the top of the cage, and the remains of a Bantam hen below. The fowl had been partially eaten, and many of its feathers were lying in scattered bunches about the bottom of the cage. *Corvus*, evidently, was the author of this mischief, for his bill was stained with gore, to which some of the fowl's feathers were sticking; while he held his victim's head upon the perch with his claws, having already succeeded in decapitating it, and with immense delight was devouring the brains. The diet of these birds, when wild, consists chiefly of dead fishes, clams, shrimps, and other marine food, and to this the stomachs of nine dissected Fish Crows bore evidence; and, although we found Common Crows feeding upon the carcass of a dead horse in numbers, in

a locality where Fish Crows were numerous, yet we never saw the latter species visit the spot. So the case of the hen seems to be purely exceptional; and whether the Crow caught and pulled it through the wires of his cage for the express purpose of eating it or not I cannot tell. But I never found the stomachs of any of the specimens examined to contain anything save food from the sea.

Mr. Keeler states, and I have also observed the same thing, that the Fish Crows fly from "the Highlands" to the shores and flats of the South Shrewsbury River. This flight takes place shortly before sunrise on clear mornings; while, if the morning be dark or cloudy, they do not begin to move until very much later. The evening movement in the opposite direction takes place a little after sunset, with about the same variations reversed. The height of the tide makes no apparent difference as to their time of flight. They alight on the shore, if the tide be high, and wait for the receding waters to uncover their breakfast, although I have sometimes seen them pick up dead fishes from the surface of the water. They are said by the inhabitants of the neighborhood to roost in the heavily wooded district of the hills; of this I am almost certain, as that seems to be the centre of flight of all the Crows. These semi-diurnal movements from sleeping-place to feeding-ground, and *vice versa*, are not restricted to *Corvus ossifragus*, for I have noticed *C. americanus* to be generally much the commoner during the flights; but, if you should ask almost any "small boy" or farmer of those parts, he would be sure to tell you that the "Land Crows" roost in the tall grass, bushes, or trees along the shore; he also would give you plenty of instances of their so doing. As to myself, I have never been able to find any Crows near the shore long after sundown. These flights do not occur during summer, when Crows are decidedly scarce. In the fall and winter one sees immense numbers of Crows flying in the general course, but from May until September scarcely a dozen may be seen in a day.

The Fish Crow doubtless breeds in the vicinity of Seabright. This conclusion is drawn from the fact that the ovary of a female shot March 17, 1880, contained several considerably enlarged ova. Also a male bird taken April 13, 1879, and another killed April 26, 1880, make it extremely probable that it breeds in the neighborhood of the Highlands of the Navesink.

The specimens taken in the vicinity of Seabright are interesting, as representing the most northern residents of the species, and consequently the maximum size.

Measurements of Seabright Specimens.

No.	Sex and Age.	1879.	Length.	Stretch.	Wing.	Tail.	Culmen.	Gape.	Tarsus.	Middle Toe and Claw.	Grada- tion of Tail.
32	♂ ad.	Apr. 13	17.50	34.00	11.50	7.10	1.63	1.92	1.90	1.96	.55
109	♂ ad.	Nov. 15	17.00	34.50	11.32	6.88	1.63	1.85	1.90	2.00	.80
110	♀ ad.	Nov. 15	16.45	33.75	10.60	6.72	1.60	1.80	1.83	1.80	.68
169	— ?	Nov. 22	— ?	— ?	11.25	7.00	1.60	1.87	1.82	1.80	.80
115	♀ ad.	Dec. 2	16.50	32.20	10.75	6.75	1.67	1.95	1.82	1.87	.73
		1880.									
136	♀ ad.	Mar. 17	16.37	32.25	10.66	5.55	1.45	1.74	1.85	1.76	.40
148	♂ ad.	Apr. 26	16.25	32.00	10.13	6.63	1.45	1.76	1.86	1.77	.50
Average,			16.68	33.12	10.89	6.66	1.58	1.84	1.85	1.85	.64

DESCRIPTION OF A NEW WARBLER OF THE GENUS
HELMINTHOPHAGA.*

BY FRANK W. LANGDON.

Helminthophaga cincinnatiensis, sp. nov.

Plate IV.

ADULT male; spring plumage. Entire upper parts, excepting forehead, clear, bright, olive green, with a tinge of yellowish in certain lights; quills and rectrices dark plumbeous brown, their outer webs fringed with olive green like that of the back. Below, including crissum, bright cadmium yellow of nearly the same shade throughout. Forehead, bright yellow, this color bounded anteriorly by a very narrow black line from lores, and behind gradually merging into the clear olive green of crown; feathers of vertex with a median concealed area of black. Lores velvety black; auriculars black, tipped with yellowish-green, giving them a mottled appearance. A yellow area beneath the eye separates the black of lores from that of auriculars.

Greater and lesser wing coverts tipped with greenish-yellow, forming two indistinct wing-bars; outer primary edged with whitish. Inner webs of two outer tail feathers narrowly margined with white near the tip.

Bill, in the flesh, black, excepting extreme tip, and base of lower mandible, which are bluish horn-color; culmen slightly decurved,

* Reprinted, with permission, from the Journal of the Cincinnati Society of Natural History, July, 1880, pp. 119, 120.

with trace of a notch at tip. *Rictus with fairly developed bristles** extending nearly or quite to nostrils, here differing from any other species of the genus. Eyes, dark brown; tarsi and toes, pale brownish; claws, paler. Dimensions: Length, 4.75; wing, 2.50; tail, 1.85; culmen, .44, from nostril, .34; tarsus, .70.

The discovery of additional specimens may modify the above description somewhat, for, as Dr. Cones suggests to me, the concealed black of vertex would seem to indicate that this specimen had not quite attained its full spring dress.

The species is described from a single specimen, taken by the writer at Madisonville, Hamilton County, Ohio, on May 1, 1880. It has been submitted to Dr. Elliott Cones for examination, and by him, in company with Messrs. Ridgway and Henshaw, pronounced to be undoubtedly new. Its relations, according to Dr. Cones, are mainly with *Helminthophaga pinus*, although in the concealed black of vertex and auriculars it slightly resembles certain plumages of *Oporornis formosa*. From *H. pinus*, its nearest ally, it differs in its decidedly larger size, the presence of rictal bristles, the concealed black of vertex, and the black auriculars; negatively, in the total absence of white wing-bars, white tail blotches, and ashy blue on wings and tail. With *O. formosa* it seems hardly necessary to compare it; its smaller size, dissimilar proportions, short tarsi, yellow forehead, and white margin to outer tail feathers, sufficiently distinguish it from that species. A suspicion of hybridism between the two genera is, in the present state of our knowledge, inadmissible.

Of its habits nothing is known, except that it was shot while searching for insects at the end of a maple limb about fifty feet from the ground.

It is a little remarkable that this should be the third new species of this genus announced from the Eastern United States during the past six years; † such, however, is the fact, and in all three instances

* The presence of this character would by some authors be deemed sufficient reason for the institution of a new genus or sub-genus, but this, it seems to me, would be unnecessary and inadvisable.

† The other two are as follows: *Helminthophaga lawrencei*, Herrick. — Proc. Acad. Nat. Sci. of Phila., 1874, p. 220, pl. xv. Locality, New Jersey; two specimens now known. *Helminthophaga leucobronchialis*, Brewster. — Bulletin Nuttall Ornithological Club, 1876, Vol. I, No. 1, p. 1, pl. 1. Locality, Newtonville, Mass. Four others now known, — one from Penn., two from Conn., and one from an unknown locality. [Eight others now known, including two from Massachusetts, four from Connecticut, two from New York, and one from Michigan. — EDS. BULLETIN.]

the discovery has been made in an already thoroughly explored section. Whether this has any significance as indicating a special tendency of the genus to differentiation on account of changes in its environment, or is merely a coincidence, is of course problematical; the question of an extension of range from some heretofore unexplored habitat would also come in here for consideration.

LIST OF OCCURRENCES OF NORTH AMERICAN BIRDS IN EUROPE.

BY J. J. DALGLEISH.

(Concluded from p. 150.)

XLV. *Numenius borealis*, Forster. ESQUIMAUX CURLEW.

Great Britain. 1. One, Cairn Monearn, near Stonehaven, Kincardineshire. Longmuir, *Naturalist*, 1855, p. 265. Yarrell, *Br. B.*, II, p. 620. **6 Sept., 1855.**

2. One, on the Alde, Aldeburgh, Suffolk. Hele, *Notes about Aldeburgh*, p. 177. (Harting, *Hand-book Br. B.*, p. 145.) ?

3. One, Woodbridge, Suffolk. Hele, *op. cit.* (Harting, l. c.) In coll. of — Hilling, Woodbridge, Suffolk. ?

4. One, purchased in Dublin in the flesh. Blake Knox, *Zool.*, 1870, p. 2408. In coll. of Sir Victor Brooke. **21 Oct., 1870.**

5. One, Slains, Aberdeenshire. Sim, *Scot. Naturalist*, 1879, p. 36. **28 Sept., 1878.**

XLVI. *Botaurus lentiginosus*, Mont. AMERICAN BITTERN.

Great Britain. 1. One, Piddletown, Dorset. Montague, *Orn. Dict.* (Harting, *Hand-book Br. B.*, p. 150.) Type in Brit. Mus. **Autumn, 1804.**

2. One, Mothecombe, near Plymouth. Moore, *Cat. Birds Devon*, *Mag. Nat. Hist.*, 1837, p. 320. (Harting, l. c.) **22 Dec., 1829.**

3. One, Dumfriesshire. Yarrell, *Br. B.*, II, p. 578. Was in coll. of Sir W. Jardine. **Oct., 1844.**

4. One, near Armagh. Thompson, *Ann Nat. Hist.*, XVII, 1846. (Harting, l. c.) In Belfast Museum. **12 Nov., 1845.**

5. One, Fleetwood, Lancashire. Cooper, *Zool.*, 1846, p. 1248. **8 Dec., 1845.**

6. One, Anglesea. Gurney, Zoöl., 1866, p. 145. **Dec., 1851.**
7. One, Links of Balgownie, Bridge of Don, Aberdeenshire. Gray, B. of W. of Scot., p. 280. (Harting, l. c.) In Mus. Aberdeen University. **Nov., 1854.**
8. One, Latheron-wheel, Caithness. Gray, op. cit. (Harting, l. c.) **Autumn, 1862.**
9. One, Pentland Hills, Midlothian. Field Newspaper, 4 March, 1871. (Harting, l. c.) In coll. of C. Cowan of Logan House. **About 1861.**
10. One, near Canterbury. Gurney, Zoöl., 1866, p. 145. ?
11. One, Pevensey Marshes, Sussex. Dutton, Zoöl., 1868, p. 1098. In coll. of Sir John Crewe. **26 Nov., 1877.**
12. One, near Dundalk, County Louth. Lord Clermont, Zoöl., 1869, p. 1517. In Belfast Museum. **18 Nov., 1868.**
13. One, Guernsey. Smith, Zoöl., 1871, p. 2642. In coll. of Cecil Smith. **27 Oct., 1870.**
14. One, Cahir, County Galway. Blake Knox, Zoöl., 1870, p. 2408. In coll. of — Fennell of Garyroan. **31 Oct., 1870.**
15. One, Slingsby, near Malton, Yorkshire. Harting, Hand-book Br. B., Introduc., p. xi. In coll. of Sir John Crewe. **4 Dec., 1871.**
16. One, Islay Island, Argyllshire. Lumsden, Field Newspaper, Jan. 22, 1876; Zoöl., 1876, p. 4801. **Oct., 1875.**
17. One, on an inland loch, Dumfriesshire. Proc. R. Phys. Soc. Edin., 1874. Gurney, Zoöl., 1876, p. 4929. In coll. of J. H. Gurney. **25 Mar., 1873.**

Obs. — Besides the above, two other occurrences in Great Britain are recorded by Harting, l. c., as doubtful; viz. one in the Isle of Man, Yarrell, Br. B., II, p. 578, obtained in 1836, and one near Yarmouth, Gurney and Fisher, Zoöl., 1848, p. 1965, date not mentioned. Two others are also mentioned by him as having been recorded in error; viz. one at Christchurch, Hants, in 1836, mentioned in Thompson's Nat. Hist. Ire., Birds, II, p. 172, which proved to be *Nycticorax griseus*, young; and the other in Cornwall, 4 Dec., 1870, recorded in the Field Newspaper, 14 Jan., 1871, which proved to be *B. stellaris*.

Germany. 1. One, near Leipzig. Degland and Gerbe, Orn. Enr., II, 309. (This occurrence is considered very doubtful by Dresser, in B. of E., pt. 71, 72.) ?

XLVII. *Porzana carolina*, Vieill. CAROLINA RAIL.

Great Britain. 1. One, on the Kennet, near Newbury, Berks. Newton, P. Z. S., 1865, p. 196. **Oct., 1864.**

Obs. — It may be here mentioned, fide Harting, in Hand-book Br. B., p. 152, that one of this species flew on board the steamship "Nova Scotia," in October, 1865, in lat. 26° 28' N., long. 23° 24' W., more than 500 miles from the coast of Ireland.

XLVIII. *Cygnus buccinator*, *Richardson*. TRUMPETER SWAN.

Great Britain. 1. Five seen, four shot, Aldeburgh, Suffolk. Hele, Notes about Aldeburgh, p. 147. (Harting, Hand-book Br. B., p. 155.) One of these specimens has been examined by Mr. J. H. Gurney. **27 Oct., 1866.**

[*Cygnus americanus*, *Sharpless*. AMERICAN SWAN.]

Great Britain. 1. One, obtained by Macgillivray, from a poulterer's shop in Edinburgh. Macgillivray, Br. B., IV, p. 682. This specimen is now probably in the Brit. Mus., where there is one labelled "Edinburgh." **Feb., 1841.** Professor Newton informs me that he considers this occurrence a somewhat doubtful one, as Macgillivray seems, in identifying the specimen, "to have relied entirely on some anatomical characters which experience has shown to be variable."

XLIX. *Anser albatus*, *Cassin*. CASSIN'S SNOW GOOSE.

Great Britain. 1. Two, Lake of Tacumshane, County Wexford. Saunders, P. Z. S., March, 1872, where the locality is misstated. (Dresser, B. of E., pt. 19.) **Nov., 1871.**

2. One, Wexford Harbor. Dresser, B. of E., l. c. ?

3. One shot, and another trapped alive out of a flock of seven, Termonearra, Barony of Erris, Wexford. Harting, Zoöl., 1878, pp. 419, 453. **Oct., 1877.**

[*Anser canadensis*, *Boie*. CANADA GOOSE.]

OBS. — The occurrences of this species in Great Britain are so numerous, and its presence on private waters so common, that the former can only be considered as those of birds which have wandered from the latter. The species was introduced, according to Willoughby, upwards of two hundred years ago into England. Professor Newton, of Cambridge, while admitting the possibility of examples having crossed the Atlantic, has informed me that he has never met with any plausible evidence that such is the case. A specimen was shot on the island of Stromo, one of the Faroes, on 4th Oct., 1866, which, although it may have crossed from America, is just as likely to have strayed from some piece of water in Great Britain. Its occurrence is noted to me by Herr H. Müller of Faroe, in lit., 14 Mar., 1879.]

L. *Anas americana*, *Gmelin*. AMERICAN WIDGEON.

Great Britain. 1. One, Leadenhall Market. Blyth, Naturalist, III, p. 417. Yarrell, Br. B., III, p. 293. **Winter, 1837-38.**

2. One, Burn of Boyndie, Banffshire. Edwards, Zoöl., 1860, p. 6970. **Jan., 1841.**

3. One, Strangford Lough, Ireland. Thompson, Nat. Hist. Ire., Birds, III, p. 112. (Harting, Hand-book Br. B., p. 159.) **Feb., 1844.**

4. Others, Belfast Bay. Thompson, op. cit. (Harting, l. c.) ?
5. One, Essex coast. Carter, Zool., 1864, p. 8962. **Jan., 1864.**
6. One, on the Taw, near Barnstaple. Mathew, Zool., 1870, p. 2182.

20 April, 1870.

France. One, Le Crottoy, Dept. de Somme. Marmottan and Vian, Bull. de la Soc. Zool. de France, 1879, p. 250. **13 April, 1875.**

LI. *Querquedula carolinensis*, Steph. AMERICAN GREEN-WINGED TEAL.

Great Britain. 1. One, Hurstbourne Park, Hants. Fellowes, Zool., 1880, p. 70. In coll. of Mr. Fellowes. ?

2. One, Kingsbridge Estuary, South Devonshire. Nicholls, Zool., l. c. **23 Nov., 1879.**

LII. *Querquedula discors*, Steph. BLUE-WINGED TEAL.

Great Britain. 1. One, on the Nith, Dumfriesshire. Gray, B. W. of Scot., p. 573. In late Sir W. Jardine's coll. **Jan., 1863.**

France. 1. One, obtained in the market of Carentan, Dept. of La Manche, and killed in the neighboring marshes. Degland and Gerbe, Orn. Eur., II, 521, quoting Canivet, Catalogue des Oiseaux du Dept. de la Manche. ?

[***Aix sponsa*, Boie. SUMMER DUCK.**

The occurrences of this species in Europe must in most, if not all cases, be considered as those of specimens which have escaped from private ponds and pieces of water.]

LIII. *Fuligula affinis*, Eyton. LESSER SCAUP DUCK.

Great Britain. 1. One, obtained in the London market. Thompson, Nat. Hist. Ire., Birds, p. 140.

Holland. 1. One, a female. Schlegel, Mus. d'Hist. Nat. des Pays Bas, VI, p. 28.

LIV. *Fuligula collaris*, Don. RING-NECKED DUCK.

Great Britain. 1. One, obtained in Leadenhall Market, London. Donovan, Br. B., VI, pl. 147. (Gurney, Zool., 1877, p. 341.) **1801.**

LV. *Clangula albeola*, L. BUFFLE-HEADED DUCK.

Great Britain. 1. One, near Yarmouth. Paget, Sketch Nat. Hist. Yarmouth, p. 11. (Harting, Hand-book Br. B., p. 161.) In coll. of Mr. Rising of Horsey, near Yarmouth. **Winter, 1830.**

2. One, West Mud, near Devonport. (Harting, l. c.) In coll. of Rev. W. Hore, Barnstaple. **Winter, 1841.**

3. One, Bessingby Beck, near Bridlington. Cordeaux, Zool., 1865, p. 9659, where the locality is misspelt Bessingly. **Winter, 1864 - 65.**

4. One, Loch of Loriston, Aberdeenshire. Gray, B. of W. of Scot., p. 396. (Harting, l. c.) In coll. of Mr. Angus, Glasgow. **Jan., 1865.**

5. One, Loch of Strathbeg, Banffshire. Gray, l. c. (Harting, l. c.) In Banff Museum. ?

OBS. — Two other instances have been recorded, one in error, the other very doubtful (fide Harting, l. c.); the former said to have been obtained in Orkney, in 1841 (Yarrell, Br. B., III, 379), was found to have been an American skin; the latter, one in the British Museum labelled Norfolk, whose authenticity may be doubted. This species is included in Donovan's British Birds., X, pl. 226, but no locality is named or authority given for such record.

LVI. *Histrionicus torquatus*, Bonap. HARLEQUIN DUCK.

Great Britain. 1. A pair, Scotland. Montague, Orn. Diet. (Sowerby, Brit. Miscell., 1806, p. 11, pl. 6.) ?

2. One, Aberdeenshire. Gray, B. of W. of Scot., p. 394. (Harting, Hand-book Br. B., p. 160.) 1858.

OBS. — Messrs. Harting (l. c.), Newton (Ibis, 1859, p. 165), and J. H. Gurney (Rambles of a Naturalist, p. 263), have investigated all the recorded instances of this species, in Britain, and the latter, who has gone very carefully into the subject, states his belief that the above two records are the only authentic ones, the others which follow being divided into two classes, those which are doubtful, and those which have proved to be mistakes.

1st. *Doubtful instances*:—

1. One, Orkney. Sowerby, l. c. (Harting, l. c.) ?

2. One, Devonshire. Moore, Cat. Birds Devon. (Harting, l. c.) ?

3. One, Yarmouth. Paget, Sketch. Nat. Hist. Yarmouth, p. 12. (Harting, l. c.) ?

4. One, near Yarmouth. Presented to Norwich Museum by Mr. Gurney, Sr., in 1839, who is doubtful of its authenticity. (Zoöl., 1st series, p. 1380.) ?

5. Two young females, obtained in the London market. Yarrell, Br. B., 1st ed., III, p. 263. ?

6. One, Cheshire. Yarrell, Br. B., 2d ed., III, p. 366. Dec., 1840.

7. One, Caithness. Gray, l. c. (Harting, l. c.) Prior to March, 1841.

8. One, Loch of Strathbeg, Banffshire. Edward, Naturalist, 1854, p. 242. "A few winters ago." ?

9. One, on the Don, near Doncaster. Morris, Br. B., V, p. 258. ?

10. One. Simeon's Stray Notes on Fishing. (Gurney, l. c.) ?

2d. — *Erroneous records*:—

1. One, Lancashire. Banister, Zoöl., 1st series, p. 145. ?

2. One, Bridlington. Zoöl., 2d series, p. 22. Proved to be a young Long-tailed Duck. ?

3. One, Plymouth. Moore, Mag. Nat. Hist., 2d series, p. 365. Also proved to be a young Long-tailed Duck. ?

4. Several immature, on the Exe, near Exeter. D'Urban, Nat. Hist. Exeter, 1st ed., p. 122. (Gurney, l. c.) Also Long-tails. ?

5. One, Maidenhead. Birds of Bucks and Berks, p. 206. (Gurney, l. c.) ?

6. Two, Torquay. Batterby, Zoöl., 1847, p. 1697. Yarrell, Br. B., III, p. 366. Proved to be young Long-tailed Ducks. (Newton, Ibis, 1859, p. 165.) *Winter, 1846.*

7. One, Banffshire. Newton, Zoöl., 1852, p. 3331. Also proved to be a Long-tailed Duck. (Newton, l. c.) *Autumn, 1851.*

8. One, near Coleshill, Warwickshire. Foggitt, Naturalist, 1857, p. 163. Proved to be a female Scaup, *Fuligula marila*. Buckley, Naturalist, 1858, p. 124. (Newton, l. c.) *7 April, 1857.*

France. OBS. — It is mentioned by Degland and Gerbe as having occurred in France, but no instance is given.

Belgium. 1. One, De Selys, Faune Belge, p. 147. (Thompson, Nat. Hist. Ireland, Birds, p. 152.) ?

Germany. OBS. — Degland and Gerbe, and Temminck, also mention its occurrence in Germany, without giving any particular instance.

Sweden. 1. One, in the University of Upsala, probably obtained on the Swedish coast. Dresser, B. of E., pt. 59, 60, fide Nilsson. ?

2. One, near Norköping, Western Södermanland. Dresser, l. c., fide Palmén. **Spring, 1862.**

Norway. 1. Two, seen by Boie, in Trondhjemsfjord. Dresser, l. c., fide Collet. **Spring, 1817.**

2. One, Etne in Hardanger. Dresser, l. c., fide Sommerfelt. **Winter 1838.**

Denmark. OBS. — It is included by Kjörbølling in his Birds of Denmark, but no instance of its occurrence is cited.

Iceland. OBS. — Dresser says (l. c.) that, according to Faber, it is common in this island.

Austria. 1. One, in the Tyrol. Dresser, l. c., fide Von Tschusi-Schmidhofen. In Mus. of Bamberg, Bavaria. **1852.**

LVII. *Ædemia perspicillata*, L. SURF SCOTER.

Great Britain. 1. One, Belfast Bay, where two were seen two or three days previously. Thompson, Nat. Hist. Ire., Birds, III, p. 118. **1846.**

2. One, Musselburgh Bay, Frith of Forth. Martin, Naturalist, 1853, p. 83. Yarrell, Br. B., III, p. 324. **1852.**

3. One *seen*, Rona's Voe, Shetland. Dunn, Zoöl., 1848, p. 2067. **June, 1847.**

4. One, near Weymouth, Dorset. Yarrell, l. c. **Winter, 1851.**

5. One, Aberdeenshire coast. Harting, Hand-book Br. B., p. 162. In coll. of E. Hargitt. (Dresser, in his B. of E., pt. 61–62, considers the evidence in this case insufficient.) [**Nov., 1855.**]

6. One, Crofton, Cumberland. Eyton, *Rarer Br. B.*, p. 81, fig. (Harting, l. c.) **Aug., 1856.**

7. One, Scilly. Rodd, *Zoöl.*, 1865, p. 9794. **Sept., 1865.**

8. One, received by Mr. Bartlett in the flesh; locality not stated. *Naturalist*, III, p. 420. (Harting, l. c.) ?

9. One, Holm, near Stornoway, Isle of Lewis. Gray, *B. of W. of Scot.*, p. 383. (Harting, l. c.) In coll. of the late Sir J. Matheson. **Winter, 1865.**

10. One, in Museum of Stromness, Orkney, said to have been killed in the neighborhood. Dresser, *B. of E.*, pt. 61, 62. ?

11. One, Swanbister, Orkney. Gray, *op. cit.* (Harting, l. c.) **March, 1866.**

12. One, Scilly. Rodd, *Zoöl.*, 1867, p. 1017, and 1868, p. 1059. **Oct., 1867.**

13. One, Longhope, Hoy Island, Orkney. Harting, *Zoöl.*, 1879, p. 337. **1872.**

14. One, entrance of Loch of Stennis, Stromness, Orkney. Harting, l. c. ?

15. One *seen*, Sound of Bara, Orkney. Dresser, l. c. **Feb., 1875.**

16. One, killed in same locality as last seen. Dresser, l. c. **Feb. 1876.**

Heligoland. 1. One. Gätke, *Jour. für. Orn.*, 1856, p. 72. Blasius, *op. cit.*, 1871, p. 213. In coll. of Herr Gätke. **9 Oct., 1851.**

France. 1. One, near Calais. Degland and Gerbe, *Orn. Eur.*, II, p. 363. **Winter, 1835.**

2. One, obtained in market of Caen. Degland and Gerbe, *op. cit.* **Winter, 1841.**

3. Six adult males, Le Crotoy, Dept. de Somme. Marmottan and Vian, *Bull. de la Soc. Zool. de France*, 1879, p. 250. **20 Nov., 1869; 14 Nov. and 6 Dec., 1875; 27 Dec., 1877; 10 Jan., 1878; 11 Dec., 1879.**

OBS.—Besides the above, Degland and Gerbe mention having seen several individuals of this species in the Paris markets, between 1845 and 1852, and in the winter of 1864 upwards of four or five were brought there.

Belgium. **OBS.**—Dresser mentions its occasional occurrence on the coast of Flanders, in severe winters, and Baron de Selys-Longchamps, in lit., mentions its occurrence, which he considers doubtful.

Germany. **OBS.**—Naumann mentions, but doubtfully, a female killed on the Rhine, and thinks a mistake may have been made in the species.

Sweden. 1. One, a male, Karesuando, Lapland, in Stockholm Museum. Dresser, *B. of E.*, l. c., fide Nilsson. **1833.**

2. One, a male, at Kalmarsund. Dresser, *B. of E.*, l. c., fide Nilsson. **4 June, 1846.**

3. One, a male, Kyrö Kittilä parish, Lapland. Dresser, *B. of E.*, l. c. **Summer, 1858.**

Obs. — Dresser also mentions that it occurs rarely in Enare, Lapland, fide Malm, and Prof. Meves, in lit., observes, that possibly female birds of this species have often escaped observation, and that perhaps this Duck breeds occasionally in Lapland.

Faroe (Denmark). 1. Two *seen*, on Suderöc Island, by Herr H. C. Müller. Dresser, B. of E., l. c. ?

2. One, obtained by Herr Müller, now in Museum of Copenhagen. Dresser, B. of E., l. c. **Autumn, 1853.**

Russia. 1. One, Aland Island, Finland. Palmén, J. f. O., 1876, p. 4. (Dresser, B. of E., l. c.) In Museum of Helsingfors. **1866.**

2. One, at Pojo, Finland. Palmén, l. c. (Dresser, l. c.) **May, 1876.**

3. One, Aland. Dresser, B. of E., l. c., fide Mahngren. ?

LVIII. *Mergus cucullatus*, L. HOODED MERGANSER.

Great Britain. 1. One, Yarmouth. Selby, Trans. Nat. Hist. Northumb., I, p. 292. (Harting, Hand-book Br. B., p. 165.) **Winter, 1829.**

2. One, Menai Straits, near Bangor. Eyton, Hist. Rarer Br. B., p. 75, and fig. (Harting, l. c.) In coll. of Mr. Eyton. **Winter, 1830-31.**

3. One, Benton Park, Petworth, Sussex. Yarr., Br. B., III, p. 387. In coll. of Mr. Biddulph. ?

4. One, Stoke Nayland, Suffolk. Yarrell, fide Hoy, op. cit. ?

5. One, Dingle Bay, County Kerry. Thomson, Nat. Hist. Ire., Birds, III, p. 161. **Winter, 1840.**

6. One, County Meath. Watters, B. of Ire., p. 215. (Harting, l. c.) ?

7. One, Caithness. Sinclair, Cat. B. Caithness (Proc. R. Phys. Soc. Edin., II, p. 340). (Harting, l. c.) **Prior to 1841.**

8. A pair, near Leeds. Gould, B. Gt. Britain. (Harting, l. c.) ?

9. One, Somersetshire. Baker, Somerset Archaeolog. Proc., p. 146. (Harting, l. c.) ?

10. Three seen, Frith of Forth. Colquhoun, Sporting Days, pp. 20, 21. (Harting, l. c.) **5 May, 1853.**

11. Two, Sheerness. Mathew, Zool., 1870, p. 2182. **March, 1870.**

France. Obs. — This species is mentioned by Temminck, ed. 1840, p. 557, as having occurred once in France, but no locality nor authority is mentioned.

LIX. *Æstrelata hæsitata*, Kuhl. CAPPED PETREL.

Great Britain. 1. One, Southacre, near Swaffham, England. Newton, Zool., 1852, p. 3691, figure. **Spring, 1850.**

France. 1. One, killed in English Channel, is in the Museum at Boulogne-sur-Mer. Harting, Hand-book Br. B., p. 178. ?

LX. *Procellaria wilsoni*, Bonap. WILSON'S PETREL.

Great Britain. 1. Two, English Channel. Jenyns, Man. Brit. Vert. An., p. 286. (Yarrell, Br. B., III, p. 668.)

2. *Seen in abundance* off the Lands End. Gould, P. Z. S. Lond., 1839, p. 139. **May, 1838.**

3. One, Polperro, Cornwall. Couch, Cornish Fauna, II, p. 71. Harting, Hand-book Br. B., p. 178. **Nov., 1838.**

[4. One, Norfolk. Yarrell, fide Buxton, op. cit., *Spring, 1839.* This occurrence is considered doubtful by Stevenson, author of B. of Norf.]

5. One, Cumberland. Yarrell, fide Heysham, op. cit. ?

6. One, believed to have been killed on the Irish coast. Thompson, Nat. Hist. Ire., Birds, III, p. 417. (Harting, l. c.) **Aug., 1840.**

7. One, Sussex. Bond, Zool., 1843, p. 148. ?

8. One, on the Avon, Sutton Benger, Wilts. Marsh, Zool., 1859, p. 6492. **2 Nov., 1849.**

9. One, Freshwater, Isle of Wight. Delme Radcliffe, Zool., 1864, p. 8892. **Nov., 1863.**

10. One, near Aldeburgh, Suffolk. Hele, Notes about Aldeburgh, p. 176. (Harting, l. c.) **Some years before 1871.**

France. 1. Two, captured by a ship captain in the Gulf of Gascony, and received by M. Hardy in the flesh. Degland and Gerbe, Orn. Eur., II, 386. **Dec., 1854.**

2. One, on the coast of Provence. Dresser, B. of E., pt. 67–68, fide Dr Jaubert's Notes on Degland and Gerbe's Orn. Eur. ?

3. One, near Arcachon, Dept. of the Gironde, obtained by M. Maimottan, and now in his coll. ?

4. One, in Provence. Gerbe, Note sur l'apparition accidentelle en Provence, du Thalassichrome oceanien. (Ext. du Journal le Naturaliste, 1879.) **1879.**

Obs.—These two last-mentioned occurrences, not hitherto recorded, are kindly communicated by Dr. L. Bureau of Nantes, the accomplished ornithologist. Degland and Gerbe (l. c.) state that this species is more common on the coasts of Spain and Portugal, but the most recent authorities on the former, Lord Lilford, Colonel Irby, and Mr. Howard Saunders, do not mention it, nor does Prof. Barboza du Bocage, in his Birds of Portugal.

Italy. 1. One, near Cagliari, Island of Sardinia. Salvadori, Cat. degli Uccelli di Sard., p. 132. (Id., Fauna d'Italia, Uccelli, p. 301.) In the Museum of Cagliari.

LXI. *Puffinus griseus*, Gm. SOOTY SHEARWATER.

Great Britain. 1. One, mouth of the Thames. Strickland, P. Z. S. Lond., 1832, p. 129. **Aug., 1828.**

2. Two, off Plymouth. Dresser (fide Gatcombe), B. of E., pt. 61, 62. ?

3. One, Mounts Bay, Cornwall, figured by Yarrell as *P. major* in error. Dresser, l. c. **1838.**

4. One, North Berwick, East Lothian. Proc. R. Phys. Soc. Edin., V, p. —. **Oct., 1879.**

Obs. — Dresser (l. c.) also mentions one presented to the Frome Institute, by Mr. Horner of Mills Park, as a "Dusky Shearwater," which he surmises to be of this species. Having been so often confounded with the young of *P. major*, it is difficult to discriminate its records.

France. 1. One, adult female, Le Crotoy, Dept. de Somme. Marmottan and Vian, Bull. de la Soc. Zool. de France, 1879, p. 249. **25 Sept., 1872.**

2. One, adult male, Le Crotoy, Marmottan and Vian, l. c. **9 June, 1875.**

Obs. — Degland and Gerbe (Orn. Eur., II, p. 381) also mention the occurrence of this species several times near Dieppe, on the coast of Normandy, but no specific instances are noted.

Faroe. 1. One, off the island of Nólró, a female. Fielden, Zoöl., 1875, p. 4495; 1878, p. 154. **4 Aug., 1873.**

2. One, same place, a male. Fielden, l. c. **26 Oct., 1876.**

LXII. *Larus atricilla*, L. LAUGHING GULL.

Great Britain. 1. One, out of five, near Winchelsea. Montague, Orn. Diet. (Harting, Hand-book Br. B., p. 185.) In Montague coll., Brit. Museum. **Aug., 1774.**

2. Two *seen*, near Hastings. Montague, op. cit. (Harting, l. c.) ?

3. One, Lodmoor, Weymouth. Thompson, Zoöl., 1851, p. 3055. **Winter, 1850.**

France. 1. One, adult male, Le Crotoy, Dept. de Somme. Marmottan and Vian, Bull. de la Soc. Zool. de France, 1879, p. 249. **29 June, 1877.**

Obs. — Degland and Gerbe (Orn. Eur., II, 431) mention one as *said* to have been killed in the Department of Calvados, but this seems to require confirmation.

Austria. 1. One, in winter plumage, near Trieste. Isis, Cah. 12, p. 1269. (Deg. and Gerbe, Orn. Eur., II, p. 431.) **1829.**

LXIII. *Larus philadelphia*, Ord. BONAPARTE'S GULL.

Great Britain. 1. One, on the Lagan, near Belfast. Thompson, Ann. Nat. Hist., 1848, p. 192. (Zoöl., 1849, p. 2069.) **1 Feb., 1848.**

2. One, on Loch Lomond. Sir G. Leith, Zoöl., 1851, p. 3117, and 1867, p. 966. **April, 1850.**

3. One, on one of the English Lakes. Yarrell, Br. B., III, p. 555. ?

4. One, off Skerries, County Dublin. Hon. T. L. Powys, Zoöl., 1855, p. 4762. In coll. of C. W. Watkins. **14 Feb., 1855.**

5. One, Dublin Bay. Blake Knex, Zool., 1866, p. 306. **July, 1864.**

6. One, Falmouth Harbor. Rodd, Zool., 1865, p. 9501. In coll. of late Mr. Conch. **Autumn, 1864.**

Heligoland. 1. One. Gätke, in lit., 25 May, 1878. **Jan., 1845.**

LXIV. *Sterna fuliginosa*, *Gm.* SOOTY TERN.

Great Britain. 1. One, Tutbury,* near Burton-on-Trent. Brown, *Zoöl.*, 1853, p. 3755. In coll. of H. W. Des Vœux. **1853.**

2. One, on the Thames, near Wallingford, Berks. Harting, *Field Newspaper*, 26 June, 1869. (*Id.*, *Zoöl.*, 1869, p. 1867.) In coll. Mr. Franklyn. **21 June, 1869.**

3. One, on the estuary of the Axe, near Axminster. Selwood, *Field Newspaper*, 17 July, 1869. (Harting, *Hand-book Br. B.*, p. 170, where he regards this as a *doubtful occurrence*.) ?

France. 1. One, a male, caught alive on the Arrière, near Verdun. Degland and Gerbe, *Orn. Eur.*, II, p. 462. In Degland coll. in Mus. of Lille. **15 June, 1854.**

Germany. 1. One, caught alive at Proedal, near Magdeburg. Naumann, *Vög. Deutsch.*, XIII, p. 267. ?

Italy. 1. One, caught in a fishing-net, in the valley of Pinerolo. Salvadori, *Fauna d'Italia*, Uccelli, p. 282. ?

LXV. *Sterna anæstheta*, *Scop.* SMALLER SOOTY TERN.

Great Britain. 1. One, killed on board a light-ship at the mouth of the Thames. Saunders, *P. Z. S. Lond.*, Feb., 1877. (*Id.*, *Zoöl.*, 1877, p. 213.) **Sept., 1875.**

LXVI. *Anous stolidus*, *Gray.* NODDY TERN.

Great Britain. 1. Two, between Wexford and Dublin. Thompson, *Trans. Linn. Soc.*, 1835. (*Nat. Hist. Ire.*, Birds, III, p. 308.) "**About four years before 1834.**"

2. One, county Dublin. Blake Knox, *Zoöl.*, 1866, p. 306. ?

OBS.—This species is recorded (Austin, *Ann. Nat. Hist.*, IX, p. 435) as a "summer visitant" to St. George's Channel, but Harting (*Hand-book Br. B.*, p. 170) considers that doubtless *Sterna fœssipes*, the Black Tern, is the species intended.

France. **OBS.**—Degland and Gerbe (*Orn. Eur.*, II, p. 446) say, evidently quoting Temminck, that it has been captured on the coast of France, but give no particulars.

Italy. **OBS.**—Salvadori (in *Fauna d'Italia*, Uccelli, p. 286) states that this species is mentioned by local authors as frequently occurring near Nice, but that it is evidently a mistake.

LXVII. *Colymbus adamsii*, *Gray.* YELLOW-BILLED LOON.

Great Britain. 1. One, Pakefield, Suffolk. Selater, *P. Z. S. Lond.*, 1859, p. 206. ?

[*Podiceps holbolli*, *Reinh.* AMERICAN RED-NECKED GREBE.

OBS.—This species is said by Degland and Gerbe (*Orn. Eur.*, II, p. 581) to have occurred accidentally in Europe, but no locality is given, nor any authority for such statement.]

LXVIII. *Phaleris cristatella*, Bon. CRESTED AUK.

Sweden. 1. One, on the Wettern Lake, near Jönköping. Meves, fide Nya Jägare Förbundets Tidskrift, 1867, p. 108. Dec., 1860.

ADDENDUM. — To the record of *Tringoides macularius* (anteà, p. 149) add : —

Germany. 1. One, an adult male, in the environs of Spire, Rhenish Bavaria. Marmottan and Vian, Bull. de la Soc. Zool. de France, 1879, p. 248. In coll. of M. Marmottan. 22 April, 1875.

DESCRIPTION OF THE EGGS OF THE CASPIAN TERN
(*STERNA CASPIA*).

BY ROBERT RIDGWAY.

IN the number of this Bulletin for October, 1879, Mr. Henshaw records the fact that the Caspian Tern breeds on the islands off the coast of Virginia, and describes a pair of downy young obtained by him on Cobb's Island. As one of the results of a trip to the same locality the present season, it was my good fortune to obtain two eggs from a nest situated not a hundred yards from that in which the young birds described by Mr. Henshaw were found, but of course belonging to another pair of birds, since the parents of said young are among the treasures of Mr. Henshaw's fine collection. A relation of the circumstances attending the discovery of this second nest may, while perhaps adding little to our knowledge of the habits of the species under consideration, at least prove of interest to the reader.

On Sunday, July 4, the excellent boatman whose services we had fortunately been able to engage, made a trip to that portion of the island where the nest had been found the preceding season, and discovered that an immense colony of the Royal Tern had established themselves for the purpose of rearing their young, though they had at that time deposited only three eggs. He returned with six fine specimens of the birds, having killed many more. Allowing the birds sufficient time to deposit their eggs, we visited the locality two days afterward, and found an area of perhaps one eighth of an acre completely covered by their eggs, it being impossible to walk through the nesting site without crushing a greater or less number, many

eggs having been covered by drifting sand. Comparatively few pairs had deposited their full complement, a large majority of the nests containing but a single egg. Still, more than five hundred nests were counted, while our man declared that not one third the number of birds seen by him on his former visit were there, the greater part having been frightened away by the shots which he had fired at them two days before. The birds having in a few moments mounted out of gunshot, we passed on to the upper end of the island, in order to give them an opportunity to re-align, as well as to ascertain what other species were in the vicinity. Now and then a Royal Tern passing at suitable distance, on its way back to the breeding-ground, afforded us an occasional shot ; and while waiting for such chances, as we stood upon a mud flat left bare by the ebb-tide, a peculiar hoarse snarling note caused us to look to the right, just in time to behold a Caspian Tern coming straight toward us, in a manner unmistakably showing that her nest was in the vicinity. Two shots fired at her in quick succession, but without effect, caused her to turn, when, flying directly back, she swooped several times over a particular spot on the sand near the beach, nearly an eighth of a mile distant. Concluding, from her actions, that she had young, we proceeded directly to the spot, and found, in a cavity scooped in the bare sand, a single egg, undoubtedly belonging to the bird in question, whose mate flew about at a respectful distance. We did not again visit the nest until several days after, when it was found to contain two eggs, which we believe is all this species ordinarily lays, as seems also to be the case with the Royal Tern ; but we were again unsuccessful in obtaining either of the birds.

The nest, like that described by Mr. Henshaw, and distant scarcely a hundred yards from it, was isolated from those of other birds, and was merely a slight hole scooped in the dry sand. The two eggs are altogether different in shape, texture, and markings from any eggs of the Royal Tern we have ever seen, and could readily be picked from five hundred or more of the latter, embracing all the numerous variations. They measure respectively 2.75×1.90 and 2.70×1.85 , the larger one about equally rounded at both ends, the smaller more pointed at one end than the other, but yet not approaching the distinctly pointed form characteristic of nearly all eggs of the Royal Tern. The surface is much smoother than that of the egg of the Royal Tern, and the shell harder. The ground-

color is a peculiar pale olive-buff, not matched by one of more than five hundred eggs of the Royal Tern with which they have been compared, and the markings, distributed nearly equally over the entire surface, consist of small spots (roundish on the smaller egg, irregular on the larger) of deep sepia-brown and pale lavender. In every respect except size they quite closely resemble some eggs of the Oyster-catcher, but are, of course, very much larger.

As regards the abundance of the species along the Virginia coast in summer, our experience is the same as that of last year, not more than one pair being observed; and the fact that this pair was isolated from all other birds, while an immense colony of the Royal Tern was breeding on a remarkably restricted area not more than a quarter of a mile distant, induces us to believe that this is a normal habit of the bird, although we have no other evidence that the species may not sometimes breed in colonies.

The Caspian Tern when seen flying may be distinguished, by a careful observer, from the Royal Tern by its more robust build, shorter, much less deeply forked tail, and by the uniform blackish appearance of the end-half of the wing, the greater part of the inner webs of the quills being white in the Royal, while the whole surface is dark slaty in the Caspian. The two are so much alike in appearance, however, that it requires the closest observation to distinguish them.

NOTES ON COLORADO BIRDS.

BY H. D. MINOT.

BOULDER, where many of the following observations were made, lies just below the foot-hills, about thirty miles northwest of Denver, and 5,500 feet above the sea. Here I stayed from May 12 to 19, and from May 24 to June 1, inclusive. Eighteen miles westward, among the hills, is Nederland, over 8,000 feet up. Colorado Springs is almost a degree south of Denver, with a season that among the birds is at least a week in advance of Boulder, and which this year (1880) has corresponded to that of Boston. Five miles back from this city of the plains, along Fountain Creek, and among the scrub-oaks that mark the latitude, is Manitou, over 6,000 feet

above the sea, and, in fact, nearly on a level with the summit of Mount Washington. Here I spent most of June, making one excursion up Pike's Peak, and two, in the last week, to the Seven Lakes, which lie over 11,000 feet up, and about 500 feet below timber line, suggesting, with their swampy moorlands and spruce timber, the Adirondacks, — for instance, the Saint Regis Lakes.

1. *Turdus aonalaschkæ auduboni*, Ridg. HERMIT THRUSH. — Abundant at Boulder, May 31, in the groves along the town creek and elsewhere, associated with an equal number of Swainson's Thrushes, many Audubon's Warblers, a few Snow-birds, and perhaps a Lincoln's Sparrow, besides a flock of Cassin's Finches in the fields, — all brought down, I suppose, by a cold storm, above the plains of snow, that on the mountains may have been heavy. I found them all again on the bright morning of June 1, before leaving town. On Pike's Peak I neither saw nor heard the Hermit Thrush.

2. *Turdus swainsoni*, Cab. SWAINSON'S THRUSH. — Common summer residents. Established by May 20, above 8,000 feet. Abundant, however, at Boulder, May 31, as related above. On Pike's Peak, June 21, singing plentifully at evening from 9,500 to 10,500 feet up.

3. *Cinclus mexicanus*, Swain. DIPPER. — Do more than one pair of these birds ever inhabit the same stream or district? I think not. I found one pair to every clear, forcible mountain stream; though these may have occupied merely one section. No matter how swift his flight, and how tortuous the stream, the Dipper always follows it closely, never taking a "cross-cut," and never flying much above it, except to scale a fall. In "ducking," as he does constantly when perched, he often does not bend the legs, but merely compresses the body, and slightly spreads the wings. He can climb, for sometimes he runs down a slope of rock to the water's edge, and scrambles back again. His ordinary notes are a sharp *chip*, and a chatter. In June his song is rarely to be heard. He is so active and unsuspicious that he may readily be traced to his nest, which is usually built near some fall. The only one I took was quitted by the young in the last week of June, when I found the bottom or bedding gone. Did the parents, as a sanitary measure, remove this, with a view to future occupation? This nest is a sort of compressed globe, about seven inches by ten, with a circular entrance in front, four inches in diameter. It was built of moss, dry grasses, and some leaves, all cemented with mud, in a rift of rock, some five feet above the water, in a chasm just below a high cascade. It was completely hidden from any ordinary human point of view.

4. *Saxicola cenanthe*, Bechst. STONE-CHAT. — One specimen at Boulder, May 14, 1880. Considering how admirably suited the foot-hill slopes of the Rocky Mountains seemed to the wants of the Stone-chat, as exemplified in England, I looked hopefully for other specimens. Though I found none, I believe that this pretty species will prove to be of circum-

polar distribution, and to inhabit the Northern interior of this continent, perhaps approaching the coast, as a resident, in Labrador.

5. *Sialia arctica*, Sw. ROCKY MOUNTAIN BLUEBIRD. — Common summer residents throughout wooded country, often inhabiting dead timber. At Denver a pair were nesting in a cornice of the district school-house. Ordinary notes distinct, but not much different, from the Eastern Bluebird's; song-notes less plaintive, and deeper, with perhaps a richer warble.

6. *Regulus calendula*, Licht. RUBY-CROWNED KINGLET. — A common summer resident from 9,000 feet up to timber line. Locally numerous about Seven Lakes, where I searched unsuccessfully for the nest and eggs, in the last week of June. The males were active, always singing joyously, but rarely or never came within fifty feet of the ground, and apparently held no communication with their mates, who were hidden, I am convinced, in or near the tops of thick, lofty spruces, which often are, in more than one sense, practically impenetrable. One isolated grove I hunted over tree by tree. In the building season the nest might readily be found.

7. *Parus atricapillus septentrionalis*, Allen. LONG-TAILED CHICKADEE. — An inhabitant of the mountain-sides; in summer from 7,000 feet up, but not numerous. Ordinary notes closely like the Eastern Chickadee's; but the clear whistled song-notes different, never falling a whole tone, and sometimes being three syllables (*pee-pee*, or *pee-pee-pee*). I observed one bird getting feathers from a hole, as if building a new home from the old.

8. *Salpinctes obsoletus*, Cab. ROCK WREN. — A summer resident, nowhere abundant, though nowhere rare on rocky hillsides. I have found it out beyond the foot-hills, and one pair above 10,000 feet. In the open it is rather shy, keeping its distance, but may be observed, with its slender form and head erect, perched on some rock, and singing, — though, in truth, scarcely any of its peculiar notes are essentially musical. They are very various, suggesting the Carolina Wren perhaps, but scarcely the House Wren at all. There is a *chirr*, an oft-repeated *chirrup*, an indefinitely prolonged *chee*, a *pe-ēē* (like a Flycatcher's), various trills, some of them sounding whistled and so somewhat musical, an emphasized *chekee'-chekee'-chekee'*, or else *kiwi'-kiwi'-kiwi'-kiwi'*, and so on. These are loud and emphatic enough to be very marked in any lonely place. I have heard them from the plains in full force in the intensest heat of noon. The bird frequently lowers the body, ducking it much like Parkman's Wren.

9. *Catherpes mexicanus conspersus*, Ridg. CAÑON WREN. — At Manitou, local about cañons and rock formations, dodging, fluttering, and creeping about cliffs and caves. Easily recognized by its white throat and rich yellowish-brown tail, and by its notes, — a peculiar insect-like chirp, and a delightful song of falling whistles, not loud or intense, but somewhat ecstatic, as if the bird hurried through till out of breath. After early June

this song is not often to be heard. June 8, I found a nest and five fresh eggs, as described in the Bulletin of July, 1880, but with hasty measurements a little in excess. The following is a more careful description. The nest was in the roof of a cave, about ten feet from the ground, in a niche, or pocket, with an opening so narrow, vertically, that I could neither look in nor introduce my hand. Fortunately, however, the rock was so soft that I easily removed the bottom slab on which the nest rested. This, as one looks down upon it, suggests the Eastern Wood Pewee's. It is composed of twigs, stalks, and bits of leaves, surrounded by a few loose sticks, and thickly felted with down, silk, and a few feathers. The hollow is $2\frac{1}{2}$ inches long, and scarcely half as deep. The eggs measure about $.70 \times .50$ of an inch, and are crystal white (rosy when fresh), sparsely speckled and spotted, chiefly about the crown, with medium dull brown.

10. *Anthus ludovicianus*, Licht. TITLARK.—A summer resident above timber line, and occasionally below: at least one pair was established about the highest of the Seven Lakes. May 28, a flock of more than fifty appeared on Boulder Plains, in advance of a heavy storm, but apparently were all gone the next day. The only song-notes I heard were weak and tremulous,—nothing better than monotonous trills. On comparing these birds with Bay-winged Sparrows all about, I found them less nimble in running.

11. *Mniotilta varia*, Vieill. BLACK-AND-WHITE CREEPER. Boulder, June 1.

12. *Helminthophaga virginiae*, Baird. VIRGINIA'S WARBLER.—At Boulder, common through the latter part of May in creek shrubbery, and not shy; at Manitou, in summer, the most abundant of its tribe, frequenting (like the Chestnut-sided Warbler about Boston) the oak-scrub, where it is not easily caught sight of: occasional on the mountains. Ordinary note, a sharp *chip*: song, simple but various (deceptively so): common forms are *che'-we-che'-we-che'-we-che'-we*, *wit-a-wit'-wit'-wit'* (these terminal notes being partially characteristic of *Helminthophagæ*) and *che'-we'-che'-we'-che'-we'*, *che'-a-che'-a-che'*.

13. *Helminthophaga celata*, Baird. ORANGE-CROWNED WARBLER.—I observed this species as a migrant only. At Boulder, it was not uncommon in the latter part of May. Its habits are generic, and its notes and song much like the Nashville Warbler's.

14. *Helminthophaga peregrina*, Cab. TENNESSEE WARBLER.—Boulder, May 31. With a characteristic slender *tsip*, but no song that I certainly detected; active, about twenty feet up, frequently hanging from clusters. Also recorded by Mr. Aiken, further south.

15. *Dendroeca æstiva*, Baird. YELLOW WARBLER.—Abundant summer residents, gathering, however, about civilization. Mr. Henshaw speaks of their eggs in the West having a white ground: such specimens I have several times found near Boston, where, however, their song varies somewhat from that of the Colorado form. Writers have compared this

song and the Redstart's as alike: but the first always has a falling, and the second a rising inflection.

16. *Dendroeca striata*, Baird. BLACK-POLLED WARBLER. — Local summer residents about Seven Lakes. Recorded by Mr. Henshaw from Denver in May.

17. *Dendroeca auduboni*, Baird. WESTERN YELLOW-RUMP. — A summer resident, irregularly distributed, but preferring high willow swamps and spruce timber. Yet June 1, at Boulder, I found some, singly or in pairs, several miles out from the hills, — perhaps migrating however, though so often gregarious. Habits like those of the Eastern Yellow-rump; same *chip*, and *chup* (sometimes repeated rapidly); song similar, a weak little warble, but often pretty. June 24, at Seven Lakes, I found four eggs, almost ready to be hatched. These are curiously like a common type of the Yellow Warbler's, being greenish-white, marked, chiefly about the crown, with olive-brown and neutral tint, and averaging about $.70 \times .55$ of an inch (but I have no instrument here for precise measurement). The nest, composed of shreds and feathers, with a few twigs without and hairs within, was built in a dead, bare spruce, about twenty feet from the ground, compressed between the trunk and a piece of bark that was attached beneath and upheld above, where a bough ran through a knot-hole, — so compressed that the hollow measures $2\frac{1}{4} \times 1\frac{3}{4}$, and $1\frac{1}{2}$ inches deep. Such a position for the nest is probably not unusual, for I more than once saw the birds about dead timber, though, on the other hand, an old nest that I attributed to this species was in a live spruce, — against the trunk, in a crotch at some height.

18. *Siurus auricapillus*, Swain. ORANGE-CROWNED "THRUSH." — Boulder and Nederland in May: identified by notes only. Recorded from Denver.

19. *Siurus naevius*, Coues. WATER "THRUSH." — Present at Boulder, Nederland, etc., in the latter part of May. Probably a summer resident.

20. *Geothlypis macgillivrayi*, Baird. WESTERN MOURNING WARBLER. — At Boulder, abundant along creeks, in the latter part of May. At Manitou, as summer residents, less numerous. Their ordinary song-notes, *chee-chee-chee-chee*, I could not positively discriminate from those of Wilson's Black-cap, when the two sang on either side of me in a thicket. To these *chee'-che-chu*, or a few terminal notes, may be added. Sometimes, however, in May, this little Warbler has a fit of ecstasy, and, with a short, nervous flight, bursts into sweet song, though not so liquid as his Eastern cousin's. He is not at all shy. An old nest that I attributed to this species was built of shreds, lined with hairs, and situated in a thorn-bush, a foot from the ground. June 21, I took a nest near Manitou, remarkable for being five feet from the ground, and three feet from a travelled road. It was in a scrub-oak, rather bulkily built of shreds and stalks, with a thick lining of hairs, in a hollow about two inches across

and three fourths as deep. It recalls a coarse type of our Chestnut-sided Warbler's architecture, while the eggs suggest the Prairie Warbler's. These, four in number, are white, rather finely marked about the crown with lilac and neutral tints, only one being somewhat blotched with brown, and average $.75 \times .55$ of an inch.

21. *Myiodioides pusillus pileolatus*, Ridg. WILSON'S BLACK-CAP. — A common summer resident, frequenting high willow swamps. One pair, however, I found established by a brookside near Manitou. About the Seven Lakes these birds are locally numerous. In one swamp there, June 22, I found about a dozen unsuspicious males, who kept much together in the shrubbery, as if a colonial troop, quarrelling playfully a good deal, fly-catching little, and touching the ground occasionally. Face, cheeks, and all or part of the bill, rich golden-yellow. Song, *chee-chee-chee-chee* (or this syllable repeated seven times), thus different from their song as I recall it from the East. Certain low querulous notes are indescribable. Here, June 22, I found a nest and five fresh eggs. The nest was sunken in the ground, on the eastern slope or border of the swamp, at the end of a partly natural archway of long dry grass, opening to the southward, beneath the low, spreading branch of a willow. It is composed of loose shreds, with a neat lining of fine stalks and a few hairs, and with a hollow two inches wide and scarcely half as deep. The eggs measure about $.60 \times .50$ of an inch, are bluntly pointed at the smaller end, and are white (brownish when unblown), freckled with dull ferruginous-brown and insignificant lilac, chiefly and thickly at the larger end, three on and two about the crown. The nursery of the Black-cap, if this example is typical, is most like the Black-and-white Creeper's; but it is unique.

22. *Setophaga ruticilla*, Scain. REDSTART. — Boulder, May 31, quite numerous in one grove, and apparently but just arrived. At Manitou, a few are summer residents about the creek below.

23. *Pyrranga ludoviciana*, Bp. CRIMSON-HEADED TANAGER. — At Boulder, in the latter part of May, common; and observed at much higher points. I found them much in creek shrubbery, perching low, and (the female more especially) suggesting a Flycatcher. The couples kept close, like a newly engaged pair, and were very tame, allowing me within two or three yards. Chatter more musical than the Scarlet Tanager's; but song nearly or quite indistinguishable. The birds were often silent, singing but occasionally, and then perhaps in a low, meditative voice, or uttering a soft, tremulous *che-we'* as they flew. May 27, they invaded the town in abundance, frequenting gardens and fields, and perching on fences. Several inhabitants, including "the oldest," spoke of them as a new kind. At Manitou I found them few.

24. *Tachycineta thalassina*, Cab. VIOLET-GREEN SWALLOW. — Common summer residents of local abundance, ranging up to timber line, and nesting indifferently in hollow trees and porous rocks (or even, says Mr. Trippe, under caves). When I saw them among the White-bellied

Swallows their wings seemed to me of a different cut, and more used in motion. Their notes are distinct: a *chip*, almost Finch-like, and others not unlike the Cliff Swallow's. The seemingly white rump is characteristic.

25. **Vireo plumbeus**, *Coues*. PLUMBEOUS VIREO. — A summer resident. About Boulder, common up to 9,000 feet, frequenting shrubbery, and groves of pines or cottonwoods. About Manitou, infrequent. Song not so sweet as the Solitary Vireo's; ordinary note *weck*, not *ank*, but seemingly just as petulant; scold, or chatter, generic. Nest usually higher than the Solitary's. Without comparing specimens, I regard the Plumbeous Vireo as a distinct species.

26. **Vireo gilvus swainsoni**, *Coues*. WESTERN WARBLING VIREO. — At Boulder, I did not observe it till the last of May. About Manitou an abundant summer resident, frequenting chiefly the oak-scrub, but occurring up to 10,000 feet. Notes: a *chip*, a petulant *quee*, and a chatter. Song not so continuous, varied, or sweet as the Eastern bird's, but generally the repetition of a somewhat set and very definite phrase. Nest *usually* within ten feet of the ground.

27. **Carpodacus cassini**, *Baird*. WESTERN PURPLE FINCH. — To the northward a common summer resident up to 10,000 feet, often singing from a high perch almost identically with the Eastern bird. May 31, a large flock appeared at Boulder in the fields, feeding on the ground, springing up with a *che'-u-we'-u* as they flew, and all alighting in one tree, where, in a subdued way, they warbled, or almost twittered, in a confused chorus. The crown is gloriously carmine.

28. **Loxia curvirostra mexicana**, *Coues*. MEXICAN CROSSBILL. — An irregular resident. I first observed these birds between Nederland and Black Hawk, in a pine wood, where they were uttering the most extraordinary notes I ever heard (the first harsh, like the sound of some machine, and the last hurried, like obstreperous kissing!): "*Hang it! Hang it! Hang it! chup-chup-chup-chup-chup!*" It may have been a matrimonial dispute, for the birds did not allow a close approach, but flew off with their usual chattering.

29. **Melospiza lincolni**, *Baird*. LINCOLN'S SPARROW. — A summer resident in high swamps: not numerous. These birds do not like familiarity, but may be seen, now and then, perched erectly on top of a bush, and heard singing. Their song, to any imagination less vivid than Audubon's, could hardly suggest the English Wood Lark's. Were I to describe it, at its best, fancifully, I should say it was a cross between those of the Song Sparrow and Parkman's Wren. At times it is inferior.

30. **Zonotrichia leucophrys**, *Sie*. WHITE-CROWNED SPARROW. — Abundant in summer in high swamps. Common about Boulder up to June 1 at least. These Sparrows mount to sing their song, of which the first two notes are generic, though frequently not clear, and the latter a hurried little phrase, not falling, as with the White-throat, but suggesting rather the Bay-wing. Besides their *tsip*, and an almost metallic *chip*,

they have twitters of excitement, as they flutter through the shrubbery. They build their nests often in or beneath low, thick spruces, in the open swamps. Their bush nests are bulky, and altogether of straw, well hollowed.

31. *Spizella socialis*, Bp. CHIPPING SPARROW. — Tediously abundant in summer, ranging up to 7,000 feet, but apparently not yet attracted to civilization here. At Boulder they remained in flocks up to the last of May, feeding on or about buds, and flying into trees when scared. Their trill occasionally had a terminal note.

32. *Cyanospiza amœna*, Baird. LAZULI FINCH. — Not uncommon as a summer resident. Habits and notes closely like the Indigo Finch's. Song less Warbler-like, but definite, not rambling.

33. *Zamelodia melanocephala*, Coues. BLACK-HEADED GROSBEEK. — A common summer resident. Very unsuspicious. Nest like that of the Rose-breast. Habits somewhat terrestrial. The male sings deliciously, most loudly when on wing or mounted on a high perch. Without the mellowness of the Rose-breast's, his song suggests similarly the Robin's exalted, but at the same time fairly approaches the Mocking-bird's. Ordinary note generic, a sharp *chick*.

34. *Pipilo chlorurus*, Baird. CHESTNUT-CROWNED TOWHEE. — A common summer resident, ranging up to 11,000 feet. Lively and saucy: shyer and fussier than the common Rocky Mountain Towhee. Habits and song, generic. Song a *comparatively* prolonged ditty, often ending with a loud, half-petulant, Canary-bird sort of cry. Notes, a petulant *weck*, and a characteristic *pe-u-ee* in a Towhee's voice (three syllables).

35. *Agelæus phœniceus*, Vieill. RED-WINGED BLACKBIRD. — Abundant summer residents, ranging up to 9,000 feet, or perhaps higher. Bush nests near Boulder, that I examined June 1, were made of grass, etc., one lined with hairs, and some of excellent workmanship. All had four typical eggs, and one a Cow-bird's egg, which, as I could not wait to watch the case, as I should have liked to do extremely, I removed. It proved to be about three days advanced.

36. *Xanthocephalus icterocephalus*, Baird. YELLOW-HEADED BLACKBIRD. — Summer residents, locally common about the lower lakes. They have a hoarse, coarse *chuck*, and a Parrot-like whistle of three descending notes, followed by an extraordinary harsh cry, that is often repeated alone. They are very sociable.

37. *Sturnella magna neglecta*, Coues. WESTERN FIELDLARK. — Abundant to the Northward, and common in the South. They are becoming familiar: in Boulder I was shown a nest within ten yards of a house in a small lot. The nest and eggs were like our Eastern types in every way; but the birds are curiously different. They are much less shy. Their flight is less pulsating. They flirt their tails (does *magna*? I cannot recall). Their song is less shrill and plaintive, and richer. It is most like the fragment of a Thrush's song, and, to a near listener, deliciously

liquid. It is sometimes prolonged to an attempted warble. Their other notes are a liquid *chuck* and a whistled *pheu* (wonderfully like a Thrush's, yet akin to the Red-wing's), a chatter, and quite a liquid trill: also a petulant note (?).

38. *Contopus borealis*, Baird. OLIVE-SIDED FLYCATCHER. — This bird I found rare at Boulder in May, but common on Pike's Peak in June, in and about spruce timber, above 10,000 feet. I often heard their loud whistled *wh'che-be'-u*. Their ordinary *chup-chup-chup-chup*, or *bil-bil*, is Finch-like; while, when they are excited, the rapid succession of their whistled notes might readily pass for a song. (Occasionally with a peculiar loud, harsh, almost abrupt *pu-ee?*)

39. *Contopus virens richardsoni*, Baird. WESTERN WOOD PEWEE. — At Boulder, rather common after May 25. Song-notes, a harsh *pe-cē* or *pē-cē*, with nothing of the plaintive drawl of the Eastern bird (and perhaps, occasionally, a *ch'pe'-bu* or *ch'pe'-phu*). These birds I often found with the following.

40. *Empidonax trailli pusillus*, Coues. WESTERN TRAILL'S FLYCATCHER. — Common in shrubbery on or near the plains, and not at all shy. I found them already at Boulder, May 15. They habitually flirt the tail. Ordinary notes: *whit* and *pu-ee'* (and perhaps song-notes of *ch'phe-bee'*).

41. *Empidonax hammondi*, Baird. HAMMOND'S FLYCATCHER. — Similar to *pusillus* in habits and coloring, but with colors more contrasted. Ordinary note, an almost whistled *pip* or *phip*; song-note, *wh'che'-be'-u* or *whit-ch'bec'*, not very abrupt, but with the head tossed. I nowhere found this species common.

42. *Empidonax flaviventris difficilis*, Allen. WESTERN YELLOW BELLIED FLYCATCHER. — A common summer resident up to 8,000 feet. Notes, a *chip*, a single clear whistle, *pee*, and then *pee-wee*, tolerably shrill, and in no way loud, plaintive, or drawling, but slender, clear, and rather decisive. Tail not flirled. This bird sometimes prefers a high, bare perch. Mr. Aiken speaks of its singing. I heard once a *ch'pee'-wee-pee'-wee-pec'* that I attributed to this species. May 21, 8,500 feet up, I observed a pair of Flycatchers that puzzled me: they were active, pertinacious, noisy little fellows, persistently remaining near the tops of spruces, especially dead ones, and taking their flights, often vigorously, at that elevation; their notes were quick and generally shrill: *ch'putty-wa'ke*, *ch'putty-wa'ke*, *ch'pe-wee'*, *ch'pu-ee'*, etc., besides shrill twitters, guttural sounds, and almost chattering. Could these have been the Yellow-bellied Flycatchers in the mating season? I failed to identify.

43. *Panyptila saxatilis*, Coues. WHITE-THROATED SWIFT. — Rare about Boulder. About Manitou I found several communities and other pairs occupying cañons and cliffs, but often visiting the village. Their sharp, vehement, rather coarse notes suggest at times a Woodpecker. Their nests, as well as I can make out, are of glued twigs, either resting in

a crevice or on a ledge (perhaps in a cave), or else fixed in an angle of rock, where it is shaped like a sloping teacup divided vertically. The eggs are white.

44. *Selasphorus platycercus*, *Bp.* BROAD-TAILED HUMMINGBIRD. — A common summer resident. I met one 2,000 feet above timber line. Hum very peculiar, suggesting the Cedar-bird's note, prolonged and intensified, being itself intermittent, owing to the bird's flight being accentuated, instead of straight and steady.

NOTE. — The nests and eggs above described are now in the Museum of Comparative Zoölogy, Cambridge, Mass.

Recent Literature.

COOPER ON THE MIGRATIONS AND NESTING HABITS OF WEST-COAST BIRDS.* — Within the space of less than a dozen pages Dr. Cooper has tabulated a large amount of valuable information respecting the times of arrival, departure, and nesting of many of the common West Coast land birds, based mainly on his own observations; a few data recorded by others are incidentally incorporated. Dr. Cooper first discusses the influence of temperature, of the rainy and dry seasons, upon the movements and time of laying of birds at different points along the coast and adjoining interior of the Californian coast region, showing, among other things, that excess of rain late in spring retards the nesting period. The localities to which special reference is made are San Diego, Fort Mohave, Santa Cruz, Saticoy, and Haywood. The number of species tabulated is 73. The first column gives the "season of residence, etc."; six other columns give the dates of arrival, etc. of the migrants, and the dates of nesting; another column is devoted to other localities and to remarks. The observations relating to Haywood cover the years 1875-1878; those to other localities cover a shorter period. Dr. Cooper has here begun a good work in a praiseworthy way, which it would be gratifying to see continued by other observers for other localities. — J. A. A.

LANGDON'S ORNITHOLOGICAL FIELD NOTES.† — These notes relate to the bird fauna of the immediate vicinity of Cincinnati, and virtually form

* On the Migrations and Nesting Habits of West-Coast Birds. By J. G. Cooper, M. D. Proc. U. S. Nat. Mus., 1879, pp. 241-251, Jan. 20, 1880.

† Ornithological Field Notes, with five Additions to the Cincinnati Avian Fauna. By Frank W. Langdon. Journ. Cincinnati Soc. Nat. Hist., July, 1880, pp. 121-127.

a supplement to the same author's excellent "Revised List of Cincinnati Birds," published in 1879 (cf. this Bulletin, Vol. IV, pp. 112, 113). They add five species to the number there given, and bring the total thus far identified to 263. They relate to 40 species, giving records of further captures of many of the rarer ones, and of the nesting, etc. of others. Among the points of special interest are the capture of two specimens (male and female) of Kirtland's Warbler (*Dendroica kirtlandi*) near Cleveland, May 4 and 12, 1880, and the replacement of a colony of several hundred Rough-winged and Cliff Swallows, formerly nesting about the piers and under the floors of a bridge, by "that much to be regretted addition to our fauna," the House Sparrow. The paper is preceded by Dr. Langdon's description of a new species of *Helminthophaga*, which, through the author's kindness, is reproduced, with the accompanying plate, in the present number of this Bulletin. — J. A. A.

STEARNS'S LIST OF THE BIRDS OF FISHKILL, NEW YORK. * — This is a briefly annotated list of about 130 species, based on ten months' observations by the author in the vicinity of Fishkill, supplemented by information received from Messrs. Peter de Nottbeck and John Lynch. As the author has judiciously endeavored to give only what he "knows," without attempting to "theorize," the list, though very incomplete, is doubtless trustworthy so far as it goes, although its *raison d'être* is not obvious. — J. A. A.

HARVIE-BROWN ON THE EFFECTS OF AN UNUSUALLY SEVERE WINTER UPON SCOTTISH BIRDS. — In the last number of the Bulletin (Vol. V, pp. 175–177) we had the pleasure of directing attention to the systematic way in which certain British ornithologists, especially Messrs. Harvie-Brown and Cordeaux, are gathering data respecting the migratory movements of European birds. But it appears by the paper † now under notice that Scottish birds are subject to a close surveillance at other than the migratory periods. The winter of 1878–79 proved of unusual severity, and its effect upon animal life, and especially upon bird life, attracted the attention of many careful observers, Mr. Harvie-Brown giving a list of more than a dozen published papers relating to the subject. These, with his own observations and the collected notes of his many correspondents, form the basis of the paper above cited, which gives first a general and statistical *résumé* of the weather, followed by a detailed report upon its effects on animal life, nearly fifty pages being devoted to birds. It

* List of Birds of Fishkill on Hudson, N. Y. By Winfred A. Stearns. 8vo. pp. 16, without date or publisher's impress. Received July, 1880.

† Ornithological Journal of the Winter of 1878–79, with Collected Notes regarding its Effects upon Animal Life, including Remarks on the Migration of Birds in the Autumn of 1878 and the Spring of 1879. By Mr. John A. Harvie-Brown, F. Z. S., M. B. O. U. Proc. Nat. Hist. Soc. Glasgow, 1879, pp. 123–190.

appears that even many of the hardier species suffered severely at times from lack of food; many individuals of the less hardy kinds either actually succumbed to the elements, or were driven away; while migratory species were generally late in their arrival the following spring. In certain cases the resident species died from cold and hunger in such numbers as to render them much scarcer than usual the following summer. Lack of space forbids an extended notice of this highly suggestive report, which relates to a field of research replete with interest, but one which is evidently in too great a degree ignored by most of even our best field naturalists, if we recall that the range of species, and their survival over certain portions of their habitat, is primarily controlled by climatic conditions, and especially the severity of unusually cold seasons. — J. A. A.

RATHBUN'S "BRIGHT-FEATHERS."* — In typographical appearance "Bright Feathers," of which Part I, devoted to the Purple Finch, is before us, is an attractive piece of book-making; the drawing of the plate is passable, and the coloring is not more highly exaggerated than in many plates by authors of reputation for accuracy. The text more clearly betrays the hand of inexperience, not only in the general treatment of the subject, but in sundry faulty peculiarities of expression, and in the prolix melodramatic relation of the author's first acquaintance with the species, whose history he in the main faithfully and in some respects happily recounts. The author is evidently not wanting in knowledge of his subject; the faults of style he will doubtless be able to overcome as the work proceeds, in which case the assumed demand for colored plates, "at nominal prices," of our more striking forms of bird life, accompanied with attractive text, may be fairly met. — J. A. A.

MARSH'S PALEORNITHOLOGY.† — We have received an advance copy of this great work, issued with the permission of the Chief of Engineers in advance of its publication by the Survey of the Fortieth Parallel. It is the first of a series of monographs designed to make known to science the extinct vertebrate life of North America, in the investigation of which the author has passed the last ten years. It is unquestionably the most magnificent contribution ever made to our knowledge of extinct birds. Though the author's previous publications have fairly introduced these remains to the notice of naturalists, thereby lessening the actual novelty of

* Bright Feathers | or | some North American | Birds of Beauty. | — | By Frank R. Rathbun. | — | Illustrated with Drawings from Nature, and carefully | colored by hand. | [Monogram.] Auburn, N. Y. | Published by the Author. | 1880. 4to. Part I, pp. i - viii, 9 - 24, colored Plate and colored Vignette.

† Odontornithes : a Monograph on the Extinct Toothed Birds of North America ; with thirty-four Plates and forty Wood-cuts. By Othniel Charles Marsh, Professor of Paleontology in Yale College. 1 vol. 4to. pp. i - x, 1 - 201, figg. 1 - 40, pl. i - xxxiv, each with 1 explanatory leaf. Forming Vol. VII of the Reports of the Survey of the 40th Parallel.

what he has here to offer, we are at length presented with the complete result of his patient and faithful investigations, together with the final conclusions deduced from his study of these marvellous forms of bird life. It is safe to say, that no single memoir on fossil birds hitherto published can be compared with this in accuracy of detail, in importance of the material upon which it is based, in beauty of illustration, and in value of results attained.

Remains of Mesozoic Birds hitherto brought to light have been for the most part too fragmentary and too few to throw much light on the ornithology of that period. Excepting the well-preserved remains of three individuals of the Jurassic *Archæopteryx*, the only other Mesozoic Birds of the Old World are from the Cretaceous of England. The present volume is based on the remains of more than one hundred different individuals of the *Odontornithes* procured in the Cretaceous deposits of the West during the last ten years. The extent of such remarkably well preserved material is wholly unparalleled. Since the first fossil bird was discovered by Prof. Marsh, in December, 1870, near the Smoky Hill River in Western Kansas, in middle Cretaceous strata, corresponding to those named by him the "Pteranodon beds," these deposits have yielded nine genera and twenty species, represented by the remains of about one hundred and fifty individuals. Says Professor Marsh, in his Introduction : —

"A study of this extensive series of Bird remains brings to light the existence in this class of two widely separated types, which lived together during the Cretaceous period, in the same region, and yet differed more from each other than do any two recent birds. Both of these types possessed teeth, a character hitherto unknown in the class of Birds, and hence they have been placed by the writer in a separate sub-class, the *Odontornithes*. One of these groups includes very large swimming birds, without wings, and with the teeth in grooves (*Odontolæ*), and is represented by the genus *Hesperornis*. The other contains small birds, endowed with great powers of flight, and having teeth in sockets (*Odontotormæ*), and biconcave vertebræ; a type best illustrated by the genus *Ichthyornis*. Other characters, scarcely less important, appear in each group, and we have thus a vivid picture of two primitive forms of bird structure, as unexpected as they are suggestive."

These two groups, *Odontolæ* and *Odontotormæ*, Professor Marsh compares with the Jurassic *Saurura* of Hæckel, making of the three as many orders of his sub-class *Odontornithes*. Their characters are contrasted on page 187, and it is interesting to observe, in the tabulation of their characters, how much better known are the *Odontolæ* and *Odontotorma* than the much longer known *Saurura*.

The work of Professor Marsh, as a whole, is an unmeasured advance upon all previously obtained knowledge of Cretaceous birds.

The present volume is divided into two parts, the first treating of *Hesperornis*, the second of *Ichthyornis* and *Apatornis*, the entire skeletons of

typical species being described with elaborate detail, and figured in the most perfect manner.

The concluding chapter sets fully forth the important conclusions deducible from the study of such ample material. The Appendix presents a synopsis of the nine genera and twenty species of American Cretaceous Birds.

The thirty-four plates, with their accompanying explanatory sheets, were printed in 1877 and early in 1878; the printing of the text was completed the year following, and early in 1880. — E. C.

CORY'S "BEAUTIFUL AND CURIOUS BIRDS OF THE WORLD." * — We have before us advance sheets of Part I of a work, announced to be completed in twelve parts, to be devoted to such types of bird life as are remarkable or interesting, either for brilliancy of plumage, peculiarities of structure, etc., as the Birds of Paradise, Hummingbirds, the Dodo, Apteryx, Great Auk, Labrador Duck, Lyre Bird, etc. Part I includes the Dodo (*Didus ineptus*) and Rifle Bird (*Ptiloris paradiseus*). The size of the work is 22 x 28 inches; the parts will appear about once in three months, and the edition will be limited to two hundred copies. The plates are to be by the best artists, and colored by hand. Judged by the part before us, no pains will be spared to render the work, not only technically accurate, but artistic. — J. A. A.

General Notes.

A NEW BIRD (*Poliophtila cerulea*) FOR MAINE. — Two summers ago, while I was sitting on the piazza of my father's house on Cape Elizabeth, a little bluish bird suddenly showed himself in a thicket of alder, cedar, and wild-cherry bushes, not twenty feet distant. Had I been a few degrees farther south, I should have let him go, unchallenged, as a *Poliophtila cerulea*. As it was, I could hardly believe my involuntary assumption that he was of this species, and at once had recourse to my gun. I have never quite convinced myself how it was that my usually trusty weapon so utterly annihilated the little stranger. A few pale blue feathers were all that I secured of my specimen, and to this day I have been doubtful whether I might not have killed an example of *Parula americana*.

I have now, however, no doubt that my original identification was the correct one. Not twenty minutes ago, (August 29, 1880,) in the very

* Beautiful and Curious Birds of the World. By Charles B. Cory. Published by the Author. Part I, 1880. Elephant-folio. Two Plates, with text.

same thicket, I stood within arm's length of an unquestionable *Polioptila cerulea*. In this case the bird first betrayed himself by his notes,—notes in themselves sufficiently characteristic to indicate their author.

That either of these specimens were reared or had bred in this State, I do not consider probable. It is more likely that they are examples of the curious retrograde migration which is pretty well known to occur along the Atlantic coast in autumn. And color is lent to this assumption by the fact that strong southwesterly winds prevailed along that coast for several days just prior to their occurrence.

Previous numbers of the Bulletin have noted the occurrence of some three or four individuals of this species in each of the three Southern New England States; but Massachusetts has hitherto been the most northern locality attributed to it.—NATHAN CLIFFORD BROWN, *Portland, Maine*.

CAPTURE OF THE CAROLINA WREN AND OTHER RARE BIRDS IN RHODE ISLAND.—A friend of mine, Mr. George M. Gray, recently brought me a male Great Carolina Wren (*Thryothorus ludovicianus*), which he shot at Bristol, R. I., August 14, 1880. On hearing its notes he at first thought it was some one whistling, but on answering it the bird soon came within shot, and he killed it.

I took a male Stilt Sandpiper (*Micropalama himantopus*) and a male Wilson's Phalarope (*Steganopus wilsoni*), both in spring plumage, at Newport, R. I., August 2. Two Bonaparte's Gulls (*Chroicocephalus philadelphia*), an adult from Newport, and a young one from Westerly, were also sent in to us early in August of this year. I have also to report the recent capture at Newport of a fine adult Black Tern (*Hydrochelidon plumbea*) by Dr. Henry F. Marshall.—FRED. T. JENCKS, *Providence, R. I.*

NOTE ON HELMINTHOPHAGA CINCINNATIENSIS, *Langdon*.—Having had, through Dr. Cones's courtesy, the pleasure of examining the type specimen of Mr. Langdon's new *Helminthophaga*, recently described in the Journal of the Cincinnati Society of Natural History, (July, 1880, pp. 119, 120, Pl. VI,*) I feel constrained to offer a few remarks concerning it, as an expression of my own views regarding its validity as a species. At first sight, the bird impresses one with its unique coloration, which on further examination is found to be a perfect combination of the plumage of *Helminthophaga pinus* and *Oporornis formosa*. The wings and tail are plain-colored, as in the latter, but the wings show a faint suggestion of the wing-bands of the former, in the paler olivaceous tips to the middle and greater coverts. The forehead is yellow, as in *H. pinus*, but behind and along the postero-lateral edge of this yellow is seen a portion of the black cap which characterizes *O. formosa*. The

* [Reprinted in this number of the Bulletin, pp. 208-210, Pl. IV. — Eds.]

black markings of the side of the head are intermediate in extent between the narrow loreal and postocular streak of the *Helminthophaga*, and the broader loreal patch with suborbital continuation, as seen in the *Oporornis*. In form, the bird is as nearly intermediate between the two as could well be imagined, the bill inclining more to that of *Oporornis* in size and shape, the feet more like those of *Helminthophaga*. The bird may eventually prove to be a distinct species; but it certainly suggests a hybrid between those named above, with quite as good (in fact exactly the same) reason as that between *Hirundo erythrogastra* and *Petrochelidon lunifrons*, recorded in a former number of this Bulletin (Vol. III, pp. 135, 136). This view of the matter is strengthened by the circumstance that in many, if not most, parts of the Mississippi Valley, especially in the latitude of Cincinnati, the two species breed very abundantly in the same localities, both nesting on the ground, and often having their nests situated only a few feet apart. — ROBERT RIDGWAY, *Washington, D. C.*

NEST OF DENDRÆCA CÆRULESCENS, (L.) *Bd.* — In June, 1880, I was in camp in the Northern wilderness of New York, in Hamilton County, about twenty miles northeast of Wilmurt P. O., Herkimer Co. On the 13th of that month it rained heavily, and as we had a trip of a few miles from camp to make, I allowed the weather to prevent my taking my gun with me. About half-way between two small lakes, about a quarter of a mile apart, on a high bluff covered with heavy spruce timber, I discovered the nest of a Warbler. It was built about eighteen inches from the ground, in the top of a dead, overturned spruce. It was a beautiful structure, composed outwardly of strips of white rotten wood and inner bark mingled with a few birch "curls," and neatly lined with fine black roots, resembling horse-hair (I have found the same material used as lining by the Olive-backed Thrush), and the finer white quills of our common porcupine, some of which were even large enough for the barbs to be quite perceptible to the naked eye. The nest measured as follows: outside diameter, 4 inches; inside diameter, $1\frac{3}{4}$ inches; outside depth, 3 inches; inside depth, $1\frac{3}{8}$ inches. The three eggs it contained almost exactly resembled in size and markings the eggs of the Redstart, except that the spots were mostly in a crown around the larger end. I was unable to identify the bird, and, having nothing with which to kill her, left the nest as I found it. The next day, June 14, I returned with my gun and shot the female, a Black-throated Blue Warbler, as she left the nest. Having secured the mother, I turned to the nest, only to find three small birds, the eggs since the previous day having hatched, greatly to my disappointment, as the reader may imagine. — EGBERT BAGG, JR., *Utica, N. Y.*

NOTE ON GIRAUD'S MUSCICAPA "BRASIERI." — While looking over a copy of Giraud's "Description of Sixteen new Species of North American Birds," I noticed that the twelfth species is named *Muscicapa brasieri*.

Sclater, in his "Note on the Sixteen Species of Texan Birds named by Mr. Giraud of New York, in 1841" (P. Z. S., XXIII, 1855, pp. 65, 66), decides that the bird should be called *Basileuterus brasieri*. The specific name, however, needs correction. Mr. Giraud named his bird in honor of my ever-regretted friend, Mr. Philip Brasher, of Brooklyn. Through some unaccountable mistake Mr. Giraud quoted the name as Philip Brasier. That it was an unintentional error may be seen by referring to Giraud's "Birds of Long Island," where the name frequently occurs, and is correctly spelled. The name of the species in question should therefore be written *Basileuterus brasheri*. I wish to make the correction in order that the bird may correctly perpetuate the name of my honored friend. — DEL. BERIER, *Fort Hamilton, N. Y.*

ADDITIONAL NOTES CONCERNING THE BLACK-CAPPED VIREO IN TEXAS. — On June 16, 1880, on one of the highest peaks of the bluffs of Red River, near Warren's Bend, in Cook County, I heard the song of a strange bird to me, which I recognized at once, however, as that of some Vireo. After following one of the birds for an hour through tangled vines and underbrush on a steep hillside, I finally killed it, and found it to be the Black-capped Vireo (*Vireo atricapillus*). I thus had the pleasure of adding this rare bird to my Cook County list, although I had previously surmised its presence here (see this Bulletin, Vol. IV, p. 58). During the 16th and 17th I shot twelve specimens, eleven of which were preserved, — six males, three females, and two young just from the nest. While the females are all identical, and have the head grayish, the males range from jet-black on the head to a little darker than the females, although they are all full-grown or second-year birds, as shown by their song and by dissection. I find a faint buffy tinge on the throat and breast of the females, while the males are all pure white on these parts. I further noticed a considerable variation in the length of the bill. The young are olive-green and yellowish, with the head ashy or grayish. I think my success in securing so many specimens due to the fact that the parents would not leave the young. — GEORGE H. RAGSDALE, *Gainesville, Texas.*

THE PHILADELPHIA VIREO IN EASTERN NEW YORK. — On May 15, 1879, I took, near Troy, N. Y., a male and a female Brotherly-love Vireo (*Vireo philadelphicus*), in a briery, bushy thicket, where Yellow-breasted Chats commonly breed. — AUSTIN F. PARK, *Troy, N. Y.*

UNUSUAL NESTING SITE OF THE SNOWBIRD. — In the town of Otis, Berkshire County, Massachusetts, while rummaging on August 10, 1874, through an old barn from which a part of the roof had recently been blown, my attention was attracted by the chirping of a female *Junco hyemalis*. After watching her I found she had a nest in which were three or four young birds, but a few days old. The nest was placed on the edge of a scaffold under some hay which projected several inches beyond the cavity where the nest was placed. No extra material was used in making the

nest, which was composed entirely of spears of hay. The female was feeding the young, and I watched her pass out and in several times. — HARRY T. GATES, *Hartford, Conn.*

CAPTURE OF A SOUTH AMERICAN FINCH NEAR PROVIDENCE, R. I. — I am indebted to Mr. J. M. Southwick, of Providence, R. I., for the opportunity of examining a beautiful example of *Gubernatrix cristatellus*, taken near that city, July 7, 1880. It is in perfect plumage, showing no signs of previous confinement, and for this reason it was assumed to be "evidently not an escaped cage-bird." Its habitat being Brazil, it seems beyond probability that it could have reached the locality of its capture without human aid. Its occurrence in an apparently wild state is of interest in connection with previous records of the capture of exotic birds under similar circumstances. (Cf. this Bulletin, Vol. V, pp. 119-121.) — J. A. ALLEN, *Cambridge, Mass.*

CORVUS OSSIFRAGUS ON LONG AND STATEN ISLANDS, N. Y. — The idea holds that the Fish Crow is a rare bird as far north as the latitude of the above-named localities: My correspondents, Messrs. DeL. Berier, of Fort Hamilton, Long Island, and H. A. Wheeler, of New Brighton, Staten Island, give me interesting information. Mr. Berier writes: "In looking over Vol. III [Jan., 1878, pp. 46, 47] of Nuttall Bulletin, I see it was thought worth the while to record the capture of the Fish Crow on Long Island. I do not regard the bird as rare here, and my friend, H. A. Wheeler, Esq., has on several occasions found its nest on Staten Island." Mr. Wheeler writes: "In reply to your queries about the Fish Crow, I would state that it is not a permanent resident, as it comes from the South in March or early in April, and leaves during October or early November. It nests early, either in the latter part of April (in a forward spring) or during the first fortnight of May. The nests are similar to those of the Common Crow, while the eggs differ mainly in being smaller and slightly more pear-shaped. Most of the nests are found in pine or cedar trees, though I have seen them in the white-oak and the swamp-oak. They breed both near the sea-shore and a few miles back in the country, and as the other Crow is quite numerous the two kinds will often be found quite near each other. They do not seem to associate, though I have seen the two species following up and harassing Owls. In the spring while breeding the Fish Crow will often be found in newly ploughed fields, after grubs, while late in the season I have seen them in old stubble fields feeding on grasshoppers, etc., though most of the time they will be found on the sea-shore, to which they resort in flocks after breeding. During the past five years in which I have collected, I have always found them breeding on Staten Island, and have no reason to doubt that it is a permanent and regular breeding-place. They are not nearly so numerous as the Common Crow, and I seldom find more than half a dozen nests in a season, if as many as that, though I range over about twenty-five square miles more or less thoroughly." — H. A. PURDIE, *Newton, Mass.*

NEST AND EGGS OF THE YELLOW-BELLIED FLYCATCHER (*Empidonax flaviventris*). — The breeding habits of this bird seem now so well established, that a description of a nest taken by myself this year can hardly be necessary to add strength to the five instances already mentioned in this Bulletin; however, it may otherwise be of interest.

The nest was taken June 13, 1880, on Little Deer Island, Penobscot Bay, Maine. The parent bird was flushed from the nest, and flew on to a twig near by. Observing the bird to be a Flycatcher, a search was at once begun in the small trees about, and I was somewhat surprised, when this proved fruitless, to find at my feet the nest with its four eggs. The bird was allowed to return to the nest, and on being flushed a second time was secured. It was the female. The locality was in a small clearing on a heavily wooded ridge. The nest was situated on a large root, forming as it were a shelf, *in under* a low stump, being admirably concealed from sight. It is a mass of dead leaves, pieces of decayed wood, evergreens, ferns, birch-bark, and mosses, arranged much in form and appearance like that of the Pewee (*S. fuscus*). The nest proper, which measures two and one eighth inches in diameter, and one inch in depth, is lined first with fine black roots, then with a few withered grasses. The eggs are similar to those already described in the Bulletin, the ground color being white, with numerous reddish spots over the whole surface forming a ring about the greater end. Two, however, are very sparingly spotted when compared with the others. Their size is a little less than that given by Mr. Batchelder, (Vol. IV, pp. 241, 242,) as the following dimensions show: .65 × .51, .65 × .50, .65 × .50, .64 × .51. — N. A. EDDY, *Bangor, Me.*

NOTES ON NESTING-SITES OF THE GOLDEN-WINGED WOODPECKER. — About May 1 of this year I noticed some Golden-wings (*Colaptes auratus*) very busy around the shed of an old brick-kiln, although there were no trees near. On visiting it I found they had enlarged two auger-holes in a large, decayed spruce post, and were trying to nest there; but so many people cross the yard every day, they will probably be driven away. I have frequently noticed what a correspondent mentions in a late number of the Bulletin (Vol. V, p. 56) regarding Golden-wings enlarging natural cavities. I have seen them dig two inches through the hard shell of a seasoned ash stub to get to a hollow which showed through a crack, the existence of which they must have perceived; they apparently bored through to it to save the labor of making the whole excavation in solid wood. — MANLY HARDY, *Brewer, Me.*

CAPTURE OF THE AVOCET IN NEW BRUNSWICK. — When in St. John, N. B., a short time since, I saw in a bird-stuffer's shop a good specimen of the Avocet (*Recurvirostra americana*) sent to him to set up. It was shot by Mr. William Ellis, at Quaco, where he has shot three this season (1880), and where he says "they come along every few years." I have been able to get but two. As they occur so rarely in New England, it is a little

strange to find them so frequently over the border in New Brunswick. — GEORGE A. BOARDMAN, *Milltown, St. Stephen, N. B.*

THE NORTHERN PHALAROPE IN CHESTER COUNTY, SOUTH CAROLINA. — On May 17, 1880, a specimen of this species was secured on a small mill-pond near Chester C. H. This, I believe, is the first record of its capture in the State; although its probable occurrence was mentioned by Dr. Cones in his "Synopsis of the Birds of South Carolina," in 1868. — LEVERETT M. LOOMIS, *Chester, S. C.*

THE PURPLE GALLINULE IN NEW ENGLAND. — The record shows about half a dozen occurrences of *Porphyrio martinica* in New England and the Provinces. I can add another instance. Mr. Joshua G. Nickerson informs me that at Boothbay, Me., towards the last of September, 1877, a male of this species in elegant plumage was seen on the edge of a pond by a boy, who knocked it over with a stone, and captured the bird alive. It was kept in a slatted box for some days, and at once became very tame. Being allowed the freedom of the room, it would parade about the floor, and perch on and take flies from the hand. Given too much liberty, it shortly escaped. — H. A. PURDIE, *Newton, Mass.*

COLYMBUS SEPTENTRIONALIS AGAIN ON THE HUDSON. — In the Bulletin for July, 1878, p. 146, is the mention of the capture of a specimen of *Colymbus septentrionalis* at Low Point, on the Hudson River. I have seen the bird in question, and will add the capture of a second specimen in a locality not far from the first, in the autumn of 1878 (about the beginning of cold weather, I could not learn the exact date). It is now in the possession of Mr. Wood, of Fishkill-on-Hudson, N. Y. Both specimens look remarkably alike. — W. A. STEARNS, *Fishkill-on-Hudson, N. Y.*

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ERRATA.

- Page 4, line 1 of foot-note, for Douse read Dowse.
 " 15, " 22, for **Melothrux** read **Molothrus**.
 " 19, " 1, " **americana** " **americanus**.
 " 30, " 12, " **domestica** " **domesticus**.
 " 71, " 25, " Dewen " Dewar.
 " 72, " 7, " Flensborg " Flensburg.
 " 85, " 17, " 28 " 38.
 " 88, " 6, " scolapaceus " scolopaceus.
 " 109, " 38, " Purple " Curlew.
 " 130, " 3, " Fig. 5 " Fig. 6.
 " 130, " 4, " Fig. 6 " Fig. 5.
 " 178, " 12, " *virginianus* " *virginicus*.



